ANNUAL REPORT

OF THE

ARCHÆOLOGICAL SURVEY OF INDIA

1929-30

EDITED BY

RAI BAHADUR DAYA RAM SAHNI, M.A., C.I.E.,

Director General of Archæology in India.



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FOR THE YEAR

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INTRODUCTION

The year under review witnessed considerable progress in all its varied spheres of activity. In connection with the conservation of central protected monuments in the United Provinces and Delhi, special mention may be made of repairs and improvements to a large number of monuments at Agra, the clearance of *débris* from the area between the so-called Mint and the Diwan-i-Am at Fathpur Sikri, the rebuilding of the *Chabutra* of the tomb of Bala Pir, which dates from the time of Aurangzeb at Kannauj, and the tomb and mosque of another Muhammadan saint dating from the 15th century in the same town; repairs to Rauza Kazmain at Lucknow; the Gupta temple at Deogarh; the Lakhesvara temple at Lakhamandal in the Dehra Dun district; the brick temples of the late Gupta period at Bhitargaon and Parauli in the Cawnpore District; preservation of the Shikargah built by Firoz Shah Tughlaq which now stands in the grounds of His Excellency the Commander in-Chief's House at New Delhi; reconstruction of the Jali screens round the tomb of Ghaziu-d-Din Khan outside the Ajmeri Gate of Delhi; repairs to three out of the four gateways of the Arab Sarai, which is related to have been erected by Hamida Banu Begam, mother of Akbar; and further work at the multi-pillared hall, which must be indentified with the Thousand-pillared Hall of Muhammad-bin-Tughlaq in the city of Jahanpanah, one of the seven ancient cities of Delhi, etc. Among the numerous monuments that received attention in the Punjab, the Lahore Fort was again the principal centre of activity and the improvements effected during the year related to Jahangir's quadrangle, the courtyard of the Diwan-i-Am and repairs to the Chhoti Khwabgah. the surrounding wall, etc.

In the Western Circle as many as 60 monuments received special repairs. These related for the most part to some of the Adilshahi monuments at Bijapur, the monuments of the Ahmadshahi dynasty at Ahmedabad and those at Champaner at the last of which work was continued in accordance with a scheme approved several years ago. The Jogesvari Cave near Bombay, which is one of the largest known Brahmanical cave-temples and exhibits a striking resemblance both in design and sculptural decoration to the principal cave at Elephanta, had been in a very neglected condition. It has now been freed from *débris* and silt and a beginning has been made with the conservation of the rock-cut pillars that support the southern verandah. Other works of repair that deserve special mention were those carried out at Nalanda, Paharpur, Gooty in the Southern Presidency and Datia, where the palace a striking example of ancient palace architecture was inspected by Mr. Hargreaves with a view to its conservation.

In the field of exploration and research the reader will find an interesting account from the pen of Sir John Marshall of his excavations on the Sirkap site at Taxila. The explorer has now no doubt that the Parthian city on this site must have been destroyed by the Kushans shortly before 64 A. D., though he does not regard this date as absolutely certain. The structural remains of the Parthian city are found to be in a very dilapidated condition, but further digging is essential in view of the many deposits of jewellery, domestic utensils and other valuable objects of that period that have been brought to light. Two hoards of such valuable objects were found by Sir John Marshall in the year under review. These were discovered in a room in block D and included an interesting relief representing wingless Eros and Psyche in gold repoussé, pendants, bangles, necklaces, girdles, etc., all of gold. Simultaneously with the surface excavations referred to above, Sir John Marshall continued deep digging in other parts of the site and obtained from the stratification revealed valuable evidence as to the various dynasties that had occupied this site from the beginning of the 3rd century B. C. The season's excavations yielded 454 coins in all and descriptive lists of them showing the find-spot and the depth at which each coin was recovered are appended to the description of the operations. At Mohenjodaro Mr. E. J. H. Mackay was able to excavate a large area to an average depth of 16 to 18 feet below datum and exposed, besides numerous buildings, a large section over one-third of a mile in length of the main street of the area which in Sir John Marshall's "Mohenjodaro and the Indus Civilization" is designated as Street I. Portable antiquities revealed by the excavation were numerous. Noteworthy among them are a razor with two edges, one straight and the other curved, which in general shape is similar to certain Egyptian examples; a sealing or amulet which bears on the reverse an incised design of a vulture with outstretched wings and human feet similar to the one found by myself at Harappa in 1924-25; an impression of a boss seal which depicts a buffalo surrounded by a number of dead bodies which are believed to represent a deity or a king surrounded by his dead enemies, and resembles some archaic examples from Mesopotamia; an amulet the first of its kind so

far found at Mohenjodaro, which shows certain resemblance to the Egyptian sign for stability; a medallion with a figure of the single-horned animal, so common on Mohenjodaro and Harappa seals, which was inlaid with coloured paste or other substance, and may have been a ritual ornament: and lastly a seal impression representing a buffalo about to be transfixed with a spear by a man. At Harappa Mr. Vats's excavations during the year brought to light a prehistoric cemetery on the low lying ground to the north of the local Museum on the site. Here besides a number of what appear to be complete burials in open ground, 110 burial jars were recovered. The contents of these jars have not yet been examined but the results are likely to prove of great value to the anthropologist.

That the Indus Valley culture was not confined to that region alone is proved by the discovery of a small site of that period at a village called Kotla Nihang in the district of Ambala. Some trial excavations carried out on this site revealed bricks and portable antiquities identical in shape and purpose to those found at Harappa and Mohenjodaro. One or two other sites in Sind were known to belong to the same early culture but very little was known of other sites in the Indus Valley itself. A regular survey of such sites in this province was extremely desirable and Mr. N. G. Majumdar was entrusted with the task. His tour extended over 2,000 miles from the delta of the River Indus northward as far as the Sukkur district. In the course of this journey over one hundred mounds and old sites were surveyed and out of these at least three definitely belong to the chalcholithic period. At Amri Mr. N. G. Majumdar discovered potteries of the Mohenjodaro period and an earlier type of thin painted ware resembling potteries from Baluchistan and Seistan

At Nalanda the excavation of Monastery site No. 8 was taken in hand and the portable antiquities recovered included a beautiful statue of Avalokitesvara and six bronze statues of Buddhas and Bodhisattvas which must have been manufactured at Nalanda itself. At Paharpur, in addition to the excavation of some 120 cells of the monastery around the great temple, the central chamber of the latter underwent a thorough examination. A well constructed floor was found in this chamber at a depth of 38 feet from the top of the walls, but revealed no relics of any kind which would have enabled the determination of the purpose of this interesting structure. That the whole of this temple was constructed in the 6th or 7th century A. D. was, however, evident from the fact that a shaft sunk through this floor yielded no antiquities of an earlier date. At Nagarjunikonda Mr. Longhurst's excavations brought to light two more stupas similar in plan to the Great Stupa built by the lady Chantisiri and described in the previous year's report; two monasteries, a number of inscriptions and many basrelief sculptures in the Amaravati style. Stupa No. 6 was opened and revealed the relics over which the structure had been erected. These were contained in a small gold reliquary which in its turn was placed in a stupa-shaped silver casket which was found in a very broken condition. The relics included, besides small gold lotus flowers and beads, a tiny piece of bone and

two small medallions embossed with portraits of a king and a queen whose identity remains a mystery. The other stupa contained no relics but yielded well preserved and beautifully carved stone images.

The paintings on silk and other antiquities from Central Asia have now been exhibited along with prehistoric potteries in the Central Asian Antiquities Museum, and at Sarnath the whole collection of sculptures has been rearranged in chronological sequence, all ill-preserved or otherwise inferior specimens being relegated to a godown outside the exhibition galleries.

The Epigraphical Section of the Report deals with important inscriptions from Nagarjunikonda, Mathura, etc., while "Section IV, Museums" deals with important acquisitions made for the Indian and other Museums.

D. R. SAHNI.

SECTION I.—CONSERVATION.

UNITED PROVINCES : MUHAMMADAN AND BRITISH MONUMENTS.

By Khan Bahadur Maulvi Zafar Hasan.

DURING the year under report a sum of Rs. 1,44,454 was spent on the conservation and maintenance of Muhammadan and British Monuments in the United Provinces of Agra and Oudh. Out of this sum Rs. 44,756 was expended on special repairs, Rs. 44,610 on annual repairs and the balance of Rs. 55,088 on the maintenance of the Archæological Gardens.

AGRA.

The chief centre of activities during the year was the AGRA FORT, where several works of special repair were executed, the most important of them being the conservation of the ANGURI BAGH. A portion of the railing to the north of its courtyard was restored and the stone floors of certain rooms and *dalans* at the ground storey re-paved. No further repairs to the railings in this building are now needed. At the AKBARI MAHAL the position of a room, that once existed to the north of the palace, was demarcated by the restoration of its plinth and of pillar bases to indicate the positions of the pillars that have disappeared and by the reconstruction of the floor with red sandstone slabs (Plate I, *a*, *b*). Similar improvements were made to the floors of several rooms of the JAHANGIRI MAHAL and the missing plinth stones of the north courtyard were replaced by new ones. The unsightly iron grated doors on the south of this building were replaced by teak-wood doors of an appropriate Mughal design and the floor of a room to the east of the SHISH MAHAL paved with marble slabs similar to those originally employed.

The dusty floors of the *dalan* to the east of the main entrance gateway to the TAJ were partially paved with stone and the facing stones of one of the minarets, flanking the central arch of the Taj mosque on the north, which had disintegrated and bulged out, were dismantled and rebuilt.

CHINI-KA-RAUZA is believed to be the tomb of a poet named Shakrullah from Shiraz in Persia and is so called from the mosaic work in glazed tiles with which it is decorated. This poet entered the service of Jahangir in 1618 and died in the year 1639 during the reign of Shahjahan at Lahore, whence his remains were brought to Agra and buried in this tomb which is related to have been built by himself. As the building was in an untidy condition, the earth floors of its arched recesses and corner rooms were paved with red sandstone and missing plinth stones towards the north restored (Plate I, *c*). The steening of the well, that supplies water to the small garden attached to this monument,

was repaired and a stone floor laid in the adjacent kiosk, where a few decayed brackets were also renewed.

SIKANDRA.

Out of the four causeways at AKBAR'S TOMB, the one on the north still remained in a ruined condition presenting an unsightly appearance. A start was made last year with its restoration, and a length of 34 feet repaired. A further length of 65 feet was treated during the year under review (Plate I, *d*), and it is intended gradually to rebuild the whole of it. Other works at Sikandra included the replacement of the tiled roof of the BHUSA godown by one of reinforced brick to prevent damage by monkeys and of the cloth ceiling of the dining room of the Rest House by a brick ceiling and the renewal of the thatching over it.

At MARIAM'S TOMB four decayed brackets and several plinth stones which had become worn were taken out and replaced by new ones.

ITBARI KHAN'S MOSQUE was partially enclosed with a dwarf wall, but the work could not be completed as the land required for fencing around it could not be acquired during the year.

FATHPUR SIKRI.

The work of clearing the *débris* that lay between the so-called MINT and the DIWAN-I-AM which was started last year was brought to completion and revealed an open courtyard with a raised platform in its centre. The excavation also brought to light a large number of bases, caps and shafts of pillars belonging to a *dalan* which once existed to the south of this courtyard. Other structures discovered in this area were masonry pillars, which seem to have supported a viaduct for the distribution of water to the various buildings in the neighbourhood. Stone ballast was collected for the widening out of the approach roads next year and five turnstiles were erected at the approaches to various buildings to keep out cattle.

RAPRI.

Special repairs were executed to the IDGAH at RAPRI, District Mainpuri, which owed its origin to Malik Kafur, the eunuch general of Alauddin Khalji, in the year 1312 A.D. and which will be found described in detail in last year's report under the MISCELLANEOUS NOTES SECTION. Built of bricks in clay, this structure became much dilapidated: the south bastion had completely collapsed and the one on the north was in a dangerous condition. The wall, containing the *mihrab* recesses, was also badly undermined. The bricks used in the construction of this monument are of a special size, some of them being ornamented, and seem to have originally belonged to a Hindu temple. The wall and both the bastions were repaired with new bricks of the same size as those used in the adjoining mosque (Plate II, *d*) and cracks in the north bastion grouted with cement. The measures of conservation required had unfortunately been underestimated and it will be necessary to execute further repairs to the building for its preservation. It is proposed to acquire a piece of land all round the building

and demarcate it with stone boundary pillars. The acquisition could not be effected during the year owing to technical difficulties and the work has had to be postponed to the ensuing year.

KANAUJ.

The monuments which received attention at Kanauj, District Farrukhabad, were the TOMB of BALA PIR and the TOMB AND MOSQUE OF MAKHDUM JAHANIAN. Conservation notes on these monuments were drawn up early in the year 1928, but the actual work of conservation could not be taken in hand until after necessary agreements had been executed by their owners.

The TOMB of BALA PIR stands on a raised *chabutra* inside a spacious walled enclosure, entered by a lofty gateway, which bears an inscription recording its erection by Shaikh Muhammad Mahdi with the help of Nawab Diler Khan, son of Darya Khan, during the reign of Aurangzeb Alamgir in the year 1081 A.H. (1670 A.D.). The Tomb, which is constructed of red sandstone, is crowned by a dome with a domed *chhatri* at each of its four angles. On the doorway to the south there are several inscriptions recording the death of the saint in 1054 A.H. (1644 A.D.) and the construction of the tomb by Bahadur Khan, son of Darya Khan, during the reign of the Emperor Shahjahan in the year 1057 A.H. (1647 A.D.) or some twenty-three years before the outer gateway was added. The *chabutra* referred to also supports the tomb of Shaikh Muhammad Mahdi, son of Bala Pir. This is similar in design to Bala Pir's tomb and was, according to an inscription on its south doorway, constructed during the reign of Aurangzeb. The chief works of conservation carried out to these tombs were the rebuilding of the broken *chabutra* with block *kankar* similar to the original material (Plate II, *a*), the replacing of the missing stone slabs of the floor, the renewing of the decayed stone facing of the walls and the relaying of the roof with lime concrete.

The TOMB and MOSQUE of MAKHDUM JAHANIAN stand on an elevated piece of ground, and are entered through a gateway with an inscription, dated 881 A. H. (1476-77 A.D.). The mosque is constructed of stone and its pillars, brackets, etc., are richly ornamented with carving. It is five bays deep and contains nine arched openings on the east. It does not seem to have been completed, as there is an open space about the centre of the roof which was apparently intended to be covered by a dome but which was never constructed. The Tomb of Makhdum Jahanian is contemporaneous with the Mosque and constructed of similar material. It consists, as usual in structures of this class, of a domed chamber with its four corners marked by small minarets. On its southern doorway there is an inscription stating that the building was damaged by an earthquake, and that Abbas Ali, a descendant of the saint, repaired it in the year 1209 A.H. (1794-95 A.D.). The inscription also records that the tomb is that of Jalal Haidar, the third in descent from Makhdum Jahanian Jahangasht, and that it was constructed by one Shah Hari in the year 881 A.H. (1476-77 A.D.). The repairs executed to these two buildings consisted in making the roofs watertight, relaying the floor of the mosque with lime concrete, providing

teak-wood doors of Mughal design at the south and east entrances of the tomb and rebuilding the broken wall of the enclosure to the south.

LUCKNOW.

The RESIDENCY BUILDINGS received due attention, but, as all of them are in a ruined condition, the repairs executed were restricted to underpinning, lime pointing and other petty measures of similar nature. The Model of the Residency was repaired by the Modeller attached to the Calcutta Museum and the iron railings of the compound wall were painted and the notice boards re-lettered. The usual annual repairs such as jungle clearance, rendering the roofs watertight, lime pointing, etc., were carried out to DILKUSHA PALACE, QAISAR BAGH GATES, NEIL'S GATE, SIKANDAR BAGH, BIBIAPUR HOUSE and JANAB ALIA'S TOMB. The south compound wall of the NADAN MAHAL was raised to keep out trespassers, and broken plaster in the neighbouring TOMB of IBRAHIM CHISHTI repaired. Among the stucco buildings at Lucknow it is a pleasure to come across a stone building such as the Nadan Mahal, which is constructed of red sandstone similar to the buildings at Agra and Delhi.

At RAUZA KAZMAIN, displaced copper plates covering the dome were reset, broken rain spouts renewed, new *khuras* constructed under them, and broken plaster restored. Cracks in the walls, arches and roof of the KUFA MOSQUE standing in the vicinity of Rauza Kazmain, were filled with cement, and wire netting screens fitted in the light shafts to keep out bats. These buildings are privately owned and for their maintenance a sum of Rs. 136-5-6 was contributed by their owners. Repairs were also carried out to the DARGAH of HAZRAT ABBAS, where two decayed roof beams of wood were renewed and the roof made watertight. This monument also belongs to a private owner and the sum of Rs. 261-12-0 received from him together with the amount referred to above was duly deposited into the Government Treasury and credited to Central Revenues.

JAUNPUR.

A new *sal* wood door of Mughal pattern was fixed in the west door opening of FIROZSHAH'S TOMB, and the decayed floor repaired. The floor of the central compartment of the CHAR UNGLI MASJID was relaid with lime concrete, and the broken stone posts of the fencing, surrounding the JHANJRI MASJID, were replaced by new ones and the wire made taut. The approach road between the two gateways of the FORT had been in a bad state of repair and a new layer of *kankar* was laid and consolidated where necessary. The shops over the AKBARI BRIDGE were vacated, as the tenants had failed to comply with the orders regarding their cleanliness, and insisted on erecting unsightly hangings in front of them.

ALLAHABAD.

The roof of the ZANANA PALACE inside the ALLAHABAD FORT was relaid with lime concrete, and a portion of the apron path round the palace re-paved with stone slabs. The dislodged *dasa* stones of the *chabutra* of KHUSRU'S TOMB in

the Khusru Bagh were re-set and the broken floor of his mother's mausoleum repaired with lime concrete.

FATHPUR.

In the BADSHAHI BAGH at Khajua, the modern openings in the end walls of the western pavilion were closed with country bricks in lime, and attention paid to the clearance of jungle.

DEHRA DUN.

The masonry pillars, known as KALANGA MONUMENTS, were whitewashed together with their enclosure wall, and the jungle cleared all round it to a distance of 10 feet. The pillars are situated about 2 miles north of Dehra Dun across the dry bed of a river, and commemorate the attack made by the British under Sir Robert Gillespie in 1814 on Kalanga Fort, which was gallantly held by the Gurkhas. The fort was taken and razed to the ground.

Annual repairs such as jungle clearance, fixing of notice boards, etc., were carried out to several other monuments in the Province.

GARDENS.

The monsoon was again almost a failure and the gardening operations such as grassing and planting of shrubs in the Archæological Gardens of the United Provinces were greatly hampered. For the rest the gardens were maintained in as good a condition as was possible.

At the TAJ GARDENS at Agra the two rose beds were moved to adjoining plots and a number of additional varieties of roses obtained and added to the existing collection. The shrubberies were hard pruned to promote better growth, and vacant spaces were filled. The colour scheme of the flower beds produced an excellent effect. Two lawns in the quadrangle were trenched and re-grassed.

The main purpose of the KHAN-I-ALAM NURSERY is the propagation of trees, shrubs, roses, etc., and the production of seeds of annuals. Here a wire fencing was erected to protect the outer plantation of guavas and oranges and some new varieties imported of Sweet Peas, Litchi and Pomegranate. The operations in the GARDENS in the AGRA FORT included improvement of the lawns and shrubberies in the Diwan-i-Am enclosure.

The old Guava trees in the RAM BAGH were replaced by Kamrakhs, Limes and other fruit trees and Oranges interplanted in the two Loquat plots. Other fruit trees received attention and three small lawns were re-grassed.

The shrubberies planted in the ITIMADU-D-DAULA gardens will have to be replaced by new ones during the ensuing year. Great difficulty was experienced in maintaining the dwarf Inga Dulcia hedges owing to attacks of white ants. A few grafted Safaida Guavas were planted in the outer enclosure, but they are not likely to make good progress until the supply of water is improved, In the ROMAN CATHOLIC CEMETERY the Alternanthera on the narrow *pat*[illegible]was

replaced with grass, which has so far done well and shown a decided improvement on the former.

At AKBAR'S TOMB at Sikandra, the levels of the lawns in the forecourt were corrected where necessary, and patchy portions re-grassed. Seeds of Desi Mangoes were sown to replace the trees, which had been damaged by monkeys and tree guards provided to protect them. Inside the enclosure, casualties in the Mango plantation were replaced and some Orange trees interplanted. The continuous line of shrubberies in front of the building platform was replaced by groups of shrubs, leaving gaps to allow the platform to become more visible and it is proposed to extend this arrangement to the remaining three sides of the monument. The pipe line to the inner enclosure was further extended, and with a better supply of water it will be possible to plant a more varied selection of shrubs.

In the RESIDENCY GARDENS at Lucknow two lawns were trenched and re-grassed, some new Cannas and shrubs planted and dead plants in the rose garden replaced. In the cemetery area more paths were realigned with brick edging and similar improvements effected at the NADAN MAHAL and IBRAHIM CHISHTI'S TOMB. A small shrubbery was planted in the DILKUSHA PALACE GROUNDS to balance the one planted in the previous year and several beds of roses were added. The creepers planted against the wall near the old wall at KHUSRU BAGH in Allahabad had deteriorated. These were done away with and new ones planted in their places.

DELHI PROVINCE: MUHAMMADAN AND BRITISH MONUMENTS.

BY Khan Bahadur Maulvi Zafar Hasan.

DELHI.

Repairs to the protected monuments in the Delhi Province continue to be carried out by the Public Works Department of the local Administration and one of the Conservation Assistants attached to the office of the Superintendent, Archæological Survey, at Agra was during the year under report, transferred to Delhi to assist the Public Works Department officers in the supervision of repairs and to ensure that all works of conservation are carried out in strict conformity with the recommendations of the Archæological Officers. The total expenditure incurred on the conservation and maintenance of Muhammadan and British Monuments in the Delhi Province amounted to Rs. 1,00,008-13-0, out of which Rs. 38,603-13-0 were spent on special repairs, Rs. 16,716 on annual repairs and Rs. 44,689 on the maintenance of Archæological gardens.

The monuments to which special repairs were carried out are:—(1) the SHIKARGAH at Kushak, (2) a pavilion at the SHAMSI TANK at Mehrauli, (3) GHAZIU-D-DIN KHAN'S TOMB, (4) the ARAB SARAI GATEWAYS, (5) GATEWAY and COURT-YARD to the east of Chaunsath Khamba, (6) PURANA QILA, (7) SAFDARJANG'S TOMB, (8) KALI MASJID near the tomb of Nizamuddin and (9) the QUTB. These

works which are detailed below are mostly based on recommendations made during the years 1926-28.

The SHIKARGAH consists of a pavilion constructed of rubble and was built by Firozshah Tughlaq on a dam or embankment erected by him to retain rain water from the neighbouring hilly mounds. It stands on a high terrace and contains three open bays with arches supported on dressed stone pillars, each bay being divided in depth into three compartments. The roof of the building is flat but each of the compartments has a vaulted ceiling. Recently a house for His Excellency the Commander-in-Chief has been constructed in its neighbourhood and as the Shikargah stands within its compound, special measures of conservation have been carried out to improve its former ruinous condition. Thus two flights of steps of dressed stone have been provided, one giving access to the mound and the other to the top of the terrace; trees and rank vegetation growing on the building have been removed, and earth and *débris* that had accumulated therein cleared away. Broken masonry of the walls and arches has been rebuilt, new dressed stone pillars being substituted in place of missing ones (Plate II, *b*); the dusty floor has been relaid with lime concrete and a passage seemingly intended for the discharge of water at the dam was exposed to view.

The pavilion at the SHAMSI TANK, MEHRAULI, is held sacred because it is stated to have been constructed by Shamsu-d-Din Altamash (really Iltutmish) on a spot pointed out to him by the Prophet of Islam who appeared to him in a dream riding a horse. Next morning accompanied by the saint Qutbu-d-Din Bakhtiyar Kaki, whose tomb lies in the neighbouring village of Mehrauli, the king visited the place and, finding there a hoof print of the Prophet's horse, forthwith ordered the building of a tank which he named the Hauz-i-Shamsi, and also constructed a platform and a dome over the hoof print.[1] It may be observed that the erection of this dome is ascribed by the *Tarikh-i-Alai* as quoted by Sayyid Ahmad Khan[2] to Alauddin Khalji in the year 711 A.H. (1311-12 A.D.), when that emperor cleared the Hauz-i-Shamsi.

This pavilion stands in the centre of a platform, and consists of a domed *chhatri* supported on twelve stone pillars. Under the dome is a stone slab bearing the mark of a hoof, but not the original one, which has been removed. The pavilion was in a neglected condition and made dirty by the cattle. A trench, which was excavated around it to exclude them, has exposed the ancient steps giving access to it. Petty repairs such as underpinning the plinth of the platform, providing new *chhajja* slabs in place of the missing ones and making the dome watertight, have also been carried out.

GHAZIU-D-DIN KHAN'S TOMB lies outside the Ajmeri Gate of Delhi and immediately to the south of the mosque inside the old Madrasa now known as the Arabic College. The tomb which consists of a small enclosure surrounded by marble *jāli* screens set in dwarf minarets of the same material, stands in an open courtyard with red sandstone *jāli* screens on its east and west. These *jāli* screens, which had been partly broken, were repaired, and the fractured *guldastas*,

[1] *Tarikh-i-Farishta*, Persian Text (Lucknow edition, 1905), Part II, pp. 379-80.

[2] *Asaru-s-Sanadid* by Sayyid Ahmad Khan (Cawnpore edition, 1904), Part III, p. 23.

crowning the dwarf minarets, dismantled and refixed after necessary repairs with copper dowels instead of those of iron. Repairs were also executed to a broken cenotaph and the marble steps to the south of the inner enclosure.

Ghaziu-d-Din Khan, who built the tomb and the school, was one of the leading *Umaras* in the court of Aurangzeb and his son and successor Shah Alam Bahadur Shah I. His real name was Mir Shihadu-d-Din and he enjoyed the title of Farzand Be Rao Wa Rang Ghaziu-d-Din Khan Bahadur Firozjang. He was the son of *Qalij Khan Khwaja Abid* of Turan. His son Mir Qamaru-d-Din, entitled Nawab Nizamu-l-Mulk Asaf Jah Chin Qalij Khan Fath Jang, rose to the rank of Prime Minister during the reign of Muhammad Shah, and, by his appointment as Governor of the Deccan, became the founder of the Nizam family of Hyderabad. Ghaziu-d-Din Khan died at Ahmedabad, but his corpse was brought to Delhi and interred in this tomb which was constructed by him in his lifetime.[1]

The ARAB SARAI is a walled enclosure, related to have been erected by Hamida Bano Begam, the mother of Akbar, as a settlement for three hundred Arabs, whom she had brought on return from her pilgrimage to Mecca. It has four gateways: one to the north near Bu Halima's garden, the second to the east near the south-west corner of Humayun's tomb, the third inside the enclosure about 120 yards to the west of the second, and the fourth to the west facing the Delhi-Muttra Road. The second gate bears an inscription which contains the Muslim creed and appears to record that this gateway was constructed as an entrance to the market place added to the Arab Sarai by one Mihr, a mistress of the emperor Jahangir. Three of the four gateways received attention during the year, the chief measures of conservation being the clearing of earth and rubbish from their adjoining compartments, underpinning of their walls and jambs, rebuilding of broken archways, and the filling of open joints in the vaulted ceilings with cement concrete.

The GATEWAY and COURTYARD to the east of Chaunsath Khamba form part of the enclosure of that monument. It was occupied by villagers, who had built *kacha* houses in the ruined compartments to the east, and had also utilised the gateway for residential purposes. All these modern additions were removed and the compound cleared of earth and *débris*, dressed and levelled up (Plate II, *c*). The graves standing in the courtyard were also repaired, and the roof of the gateway relaid with lime concrete to make it watertight. CHAUNSATH KHAMBA or the "Hall of sixty-four pillars" is really the tomb of Mirza Aziz, Kokaltash, who was the son of Shamsu-d-Din Atgah Khan and Jiji Angah, the wet-nurse of Akbar. In the 16th year of his reign Akbar conferred upon him the title of Azam Khan with the grant of Dipalpur as his *Jagir*. He also received other favours at the hands of that emperor. He died in 1033 A.H. (1623-24 A.D.) at Ahmedabad, but his remains were brought to Delhi and buried in the building being described.[2]

[1] *Maasiru l-Umara* by Nawab Samsamuddaulah Shah Nawaz Khan, published by the Asiatic Society of Bengal, Vol. II. pp. 872-9, III, pp. 120-3, and pp. 875-927.

[2] *Maasiru-l-Umara* by Nawab Samsamuddaulah, published by the Asiatic Society of Bengal, Vol. I, pp. 675-689, *Asaru-s-Sanadid* by Sayyid Ahmad Khan (Cawnpore edition, 1904), Part III, p. 62.

The conservation work at the PURANA QILA which had been started in the previous year was completed. The main items executed during the year under review were the relaying, with lime concrete, of the roof of the *dalans* from the Talaqi Darwaza to the south-west bastion, and the filling of open joints in the walls, jambs and soffits of arches in all the *dalans* from Humayun Gate past the Talaqi Darwaza to the west gate. An old postern gate in the west wall, which had been closed and filled up with earth and *débris*, was opened out and the passage to the gate provided with steps of dressed stone and a retaining wall on either side.

The year under report also witnessed the completion of the repairs which had been commenced at SAFDARJANG'S TOMB in the previous year. These consisted in the removal of the infillings in the arches between the compartments surrounding the basement tomb chamber; the clearance of earth and rubbish from them and the underpinning of their piers and, repairing of broken patches of plaster; and the opening up and restoration to their original appearance of the staircases on the north and west. The broken steps were rebuilt with red sandstone and provided with balustrades of the same material. Unfortunately the north-east bastion of the tomb terrace still requires urgent attention and it is not impossible that it may have to be dismantled and rebuilt.

The tomb of Safdarjang was built by his son Nawab Shujau-d-Daulah under the supervision of an Abyssinian, named Bilal Muhammad Khan, at a cost of 3 lakhs of rupees.[1] The real name of Safdarjang was Mirza Muqim Abul Mansur Khan. He was the son of Sayadat Khan, and the nephew and son-in-law of Saadat Khan, Burhanu-l-Mulk, Governor of Oudh, on whose death he was appointed as his successor by Muhammad Shah. During the reign of Ahmad Shah, he was raised to the post of Prime Minister, but the court intrigues compelled him to abandon that post of honour and to retire to the province of Oudh, which had been assigned to him. He died at Fyzabad in the year 1167 A.H. (1754 A.D.) but his corpse was brought to Delhi and buried there.[2]

Modern houses around the KALI MASJID at Nizamuddin have now been acquired and will be dismantled to afford a full view of the monument. The mosque, which is cruciform in plan with four open courts inside, is a prototype of the Khirki Masjid and bears an interesting inscription recording that it was built by Khan Jahan Junan Shah, the Prime Minister of Firozshah Tughlaq, in the year 772 A.H. (1370-71 A.D.). Junan Shah was the son of a Hindu convert named Kattu, who embraced Islam in the time of Muhammad Shah Tughlaq and was given the name Maqbul by the Emperor, who afterwards raised him to a high rank. Firozshah, on ascending the throne, conferred upon him the post of Prime Minister and the title of Khan Jahan. The title and the office of Prime Minister was, after his death, bestowed upon his son Junan Shah.[3] It appears that the mosque was built in connection with the tomb of Khan Jahan

[1] *Asaru-s-Sanadid* by Sayyid Ahmad Khan (Cawnpore edition, 1904), Part III, p. 93.

[2] *Maasiru-l-Umara* by Nawab Samsamuddaulah Shah Nawaz Khan, published by the Asiatic Society of Bengal, Vol. I, pp. 365-8.

[3] *Tarikh-i-Firozshahi* by Sham Siraj Afif, Persian Text, published by the Asiatic Society of Bengal, pp. 394 *et seq.*; Elliot's *History of India*, Vol. III, pp. 367-71.

Maqbul, which lies in its neighbourhood to the west and is locally known as the tomb of Khan Jahan Tilangani.

The building standing outside the QUTB enclosure to the east is an old one, but not protected under the Ancient Monuments Preservation Act of 1904. It is at present being utilised as a combined office and residence for the Conservation Assistant. It received certain petty repairs during the year. At the instance of the Chief Commissioner, Delhi, stone seats of suitable designs were provided for the use of visitors at the Qutb gardens, Hauz Khas, Isa Khan's tomb, Humayun's tomb, Safdarjang's tomb, Purana Qila and Kotla Firozshah.

Mention was made in last year's report of certain measures of conservation carried out by the Public Works Department to the BIJAI MANDAL, which stands within Jahanpanah, one of the seven ancient cities of Delhi, built by Muhammad Shah Tughlaq on the area intervening between the city of Rai Pithora and that of Siri. The work was taken over by the Archæological Department during the year under report and considerable progress made with it. The principal discovery of the year consisted of the remains of a large pillared hall to the north of the main building. This hall occupies a much lower level than the high terrace on which the main building itself stands, and its northern portion is hidden under a *khanqah* of a later date. The back wall of this hall is some 200 feet in length from east to west. It is coated with plaster and has vertical recesses at equal intervals for the reception of pilasters. These pilasters as well as the pillars which supported the hall must have been of wood and none of them have survived. Some of the square stone bases, 2 feet along each side, in which the pillars were fixed have remained in their original positions. Further excavation is needed to ascertain the exact purpose of this building. In the main building on the high terrace the excavations revealed the existence of a series of long stone steps which will presumably be found to end in a large open *chabutra*. Sir Sayyid Ahmad Khan was of the opinion that the Bijai Mandal had been built as a bastion, of the surrounding wall of Jahanpanah.[1] This view is obviously untenable and the structure in question was in all probability a palace of Muhammad Shah Tughlaq.

Annual repairs, carried out to the monuments in the Delhi Fort during the year, included repairs to the bases of the columns of the DIWAN-I-KHAS, the replacement of a missing *chhajja* slab at the Hammam and of broken glass panes in its latticed screens; repairs to the underground drain and watertightening of the roof of the Diwan-i-Khas, the RANG MAHAL and the DIWAN-I-AM. Other works of this nature related to the broken masonry under the *chhajja* of the BARADARI of ROSHANARA'S TOMB, the construction of a retaining wall to the north of the MUTINY MEMORIAL, repairs to the marble floor of the TOMB of JAHANARA, the re-setting of the dislodged stones on the top of the plinth of the BARA KHAMBA near the tomb of Nizamuddin, the relaying with lime concrete of the floor of SHER MANDAL, etc. Short historical notices for the use of visitors were fixed to various monuments.

[1] *Asaru-s-Sanadid* by Sayyid Ahmad Khan (Cawnpore edition, 1904), Part II, pp. 22-3.

GARDENS.

The failure of the monsoon for a second year in succession was detrimental to gardening operations and the only new works undertaken were the improvement of the creepers on the surrounding walls at the TOMB of HUMAYUN, the manuring of the lawns in the DELHI FORT GARDENS, which could not be attended to in the previous year and replacement of old and worn-out shrubs by new ones. The lawns at the QUTB continue to suffer fro m insufficiency of water supply, which requires urgent attention. Elsewhere the gardens were maintained at their usual high standard.

PUNJAB : HINDU AND BUDDHIST MONUMENTS.

By Mr. M. S. Vats.

During the year under report the Government of India sanctioned a sum of Rs. 11,035 including a later supplementary allotment of Rs. 2,394 for the conservation of Hindu and Buddhist Monuments in the Punjab. From this grant Rs. 4,246 were allotted to the Superintendent, Archæological Survey, for special repairs to the temple at Baijnath and for annual repairs to and maintenance of Hindu and Buddhist Monuments in the Punjab; Rs. 6,600 to the Director-General of Archæology in India for the conservation of monuments at Taxila and Rs. 189 to the Public Works Department for acquiring land for the making of a causeway at Bajaura in the Kulu Sub-Division. The provision of Rs. 162 for annual repairs to the combined Godown and Archæological Rest House at Harappa was, howevei, re-appropriated from the conservation grant to the new head 'L—Works'.

BAJAURA.

Special repairs to the ancient temple of BASHESHAR MAHADEO at Hat near Bajaura which had been in progress for some time were brought to completion, the item carried out during the last year being the construction of a causeway, 200 yards in length, to give access to the building.

BAIJNATH.

At BAIJNATH (ancient *Kīragrāma*) conservation was carried out to the oldest of the structural temples in the Kangra District, *viz.*, the LINGA SHRINE of VAIDYANATHA after whom the place is named. The temple is picturesquely situated on the south bank of the Binnu (ancient *Binduka*) stream, and, according to one of the inscriptions engraved on slabs built into the *maṇḍapa,* was erected in the year 1204 A.D. by Manyuka and his younger brother Ahuka during the barony (*ranhun*) at Kīragrāma of Lakshmaṇa, a vassal of Jayachandra, the ruler of Trigarta. Almost miraculously, this temple remained uninjured by the terrible earthquake of 1905. The whole of this monument including the sanctum, *ardha-maṇḍapa, maṇḍapa* and the porch was covered with a thick coat of plaster on the outside and with limewash on the inside, which effectually concealed the carvings on the ceilings. Some of these accretions were removed many years

ago, but it was not until last year that the whole of the building could be freed from the disfigurement, except from the entablature of the porch and the *ardha-maṇḍapa.* For the most part, roof slabs were found intact beneath the covering of plaster and only about 40 broken pieces had to be replaced by new ones. The task of removing limewash from the carved ceiling and upper part of the interior was an arduous one. The treatment recommended by the Archæological Chemist proved thoroughly successful. The stone surface was first scrubbed with brushes, then cleaned by the continuous application of a 10 per cent. solution of Commercial Muriatic Acid and finally flushed with plenty of water to remove all traces of the acid (Plate V, *a*). Suitable measures of conservation were also carried out to the smaller structures in the compound of the Vaidyanātha temple and to the surrounding wall. Thus the south-east portion of the Bhairava shrine and its doorway which were badly cracked and out of plumb were dismantled and rebuilt with the original material. The shatteredm odern *dharmaśālā* of sun-dried bricks, which stood across the north compound wall, was removed. The rectangular room at the north-west corner of the surrounding wall was badly leaking as its east wall had cracked, the parapets broken at several places and plaster decayed. The cracks were grouted, part of the east wall and parapets restored and the roof terraced with lime concrete 4″ thick; the tower at the north-east corner of the enclosure was cleared of rank vegetation and raised to the height of the existing doorway. The stone floor of the temple enclosure was renewed all along the west and also in a few places on the north. The removal of the *dharmaśālā* referred to above and the *débris* lying along the north wall of the compound revealed an ancient drain. This drain is connected on the east with a channel fed, about a mile to the north-east at a higher reach, by the water of the Binnu stream and on the west with an ancient tank measuring 52′ 3″×42′ 7″. The tank has steps in the middle of the north and south sides and was meant, no doubt, for ablutions before entering the shrine for worship. To prevent the entry of cattle, door leaves have been provided to entrances on the east, north-west and south. Jungle was cleared from all over and around the monument.

Some red stone facing, similar to the original, was provided to the gateway of the temple at MALOT and a part of the broken basement of the smaller temple at AMB was restored in *kanjur* and the approach from the village to the monument repaired. Jungle was cleared from the temple in the NURPUR FORT, the inscribed rocks at KANHYAṘA and PATHYAR and GAURI SHANKAR TEMPLES at NAGGAR and DASSAL in the Kangra District. A masonry well, six feet in diameter, was sunk in the compound of the Combined Godown and Archæological Rest House at HARAPPA.

UNITED PROVINCES : HINDU AND BUDDHIST MONUMENTS.

By Mr. M. S. Vats.

Originally the Government of India granted Rs. 14,715 for the conservation of Hindu and Buddhist Monuments in the United Provinces. This amount

was subsequently supplemented by a further grant of Rs. 8,654 raising the total allotment to Rs. 23,368, of which Rs. 13,520 were allotted to the Superintendent, Archæological Survey, Muhammadan and British Monuments, Northern Circle, and Rs. 9,849 to the Superintendent, Archæological Survey, Hindu and Buddhist Monuments, Northern Circle, Lahore. From the total grant a sum of Rs. 2,268 was re-appropriated to the new head 'L—Works' and Rs. 141 withdrawn, reducing the grant to Rs. 20,960. The chief works of conservation carried out in the United Provinces are summarised below.

Deogarh.

As stated in the Annual Report for the year 1927-28, the back or east face of the Gupta temple at Deogarh was in a perilous condition. It was therefore decided to dismantle and rebuild it with the original material. For this purpose stone masons were imported from Agra and it is gratifying to observe that despite the large size of blocks used in the temple, the work was accomplished satisfactorily. The only surviving lintel in the *chhajja*, which projected on this side immediately above the frieze of the window pattern, had become tilted on account of the displacement of the superstructure. This lintel was taken down and set back at right angles to the face. The core was then relaid in plumb and the facing restored. The core of the south wall at the corners which threatened to fall down received similar treatment and a large stone in the north face was underpinned. After this, grouting was done liberally on all sides to make what remains of the *śikhara* absolutely watertight (Plate III, *c*). The compound has been reduced to a uniform level and arrangements made for its drainage by providing outlets in the surrounding wall on the west. Foundations of seven structures were uncovered in the compound. Of these, two were mentioned in the Archæological Survey Report for 1927-28. The other five, *i.e.*, four on the east and one on the south, are quite fragmentary. In the course of this clearance numerous architectural pieces were brought to light. These belong mostly to the structures just mentioned and have been separately stacked at the corners of the compound.

Two of the four Gupta pillars which were lying on the apron of the sculpture godown were set up on suitable stone pedestals flanking the portico.

Lakhamandal.

The original floor of the Lakheshvar Temple at Lakhamandal in the Dehra Dun District was struck last year 2′ 6″ below the modern floor. The latter with the *débris* below it, has now been removed in order to expose the original floor; as this floor has already an easy slope towards the valley, no other provision for drainage is necessary. Excavation around the roofless *liṅga* shrine, in the northern part of the compound, revealed the fact that not only this but also the scanty remains of an earlier brick structure beneath it belonged to a later date than the original floor of the Lakheshvar temple. The latter structure was therefore the structure originally constructed on this site. The brick

remains just mentioned extend westward right below and beyond the images of the door-keepers Jaya and Vijaya which were first identified by Rai Bahadur Daya Ram Sahni and northward beneath the compound wall and another house. It is noteworthy that these images, which at any rate are not later in date than the Lakheshvar temple, are fixed in rectangular *yonis* directly resting on the brick remains referred to above and not on their own pedestals. They must therefore have been set up in their present positions about the same time as the existing *liṅga* shrine was constructed.

The *liṅga* shrine has been preserved as it was in order to prevent the compound from being used by stray sheep and cattle, the surrounding walls north and south have been extended further and provided with wicket gates (Plate IV, *d*). Stone lintels, jambs, etc., which were lying in front of the main Lakheshvar temple, have been stacked against the back wall of the court.

Kasia.

The building 'N' situated between the monasteries 'L' and 'M' on the north and 'O' on the south, which was in an untidy condition, was freed from *débris* and its walls repaired, where necessary, in accordance with its plan published in the Archæological Survey Report for 1906-7. During the previous repairs to Monastery 'O' no doorways had been provided to the cells on the south side as they were indicated neither on the published plan of the building nor in the walls of which only the foundations had survived. This omission has now been made good (Plate III, *a*). The bottom of the ancient sink in front of the image known as Matha Kuar was strengthened with a layer of cement concrete, 8" thick, and its surrounding walls pointed with cement. As a preliminary to gilding with gold leaf, the newly restored Nirvāṇa Stūpa has been lime plastered at the cost of Mr. U Po Kyu of Burma and the umbrellas over its *hti* were re-soldered and securely fixed to the shaft.

Bhitargaon.

The Gupta brick temples at Bhitargaon and Parauli in the Cawnpur District have been fully described by Dr. J. Ph. Vogel.[1] Numerous open joints in the masonry of the *śikhara* were freed from grass and treated with sunk cement pointing down to 10 feet from the top of the spire. A large *nīm* tree growing on the top was destroyed root and branch by dismantling some masonry which was afterwards rebuilt with original bricks. Lime plaster and pointing done to the interior of the temple up to the dados by the Public Works Department were scraped off and open joints treated with recessed cement pointing. Rubbish was removed from the cella, the missing *sal* wood door provided to the entrance and the corners of the enclosure were repaired.

Parauli.

As only one of the six sides of the sixteen-sided temple at Parauli, that were extant at Dr. Vogel's visit twenty years ago, has collapsed, namely, the one

[1] *A. S. I.*, 1908-9, pp. 5-21.

on the north side, it was considered sufficient to grout with cement the large vertical fissures in the interior on that side and to underpin the walls where necessary, both inside and out, with old bricks lying on the site. Voids in the thickness of the end walls due to the absence of structural bond were carefully repaired and open joints pointed with cement. Bulged out courses at the top were relaid, jungle and *débris* cleared for 10 feet all round and the plinth excavated to about 3 feet in order to expose the original basement and the step in front. On seven sides the plinth was restored up to the torus base moulding. The original floor was recovered and the notice board shifted to a more appropriate spot (Plate V, *b*).

TIKAITGANJ.

The late mediæval temple at TIKAITGANJ built alongside the bridge over the Bita river by Raja Tikait Rai in 1122-1202 A.H. at mile 10 of the Lucknow-Malihabad Road was conserved during the year. The east wall of its compound was generally underpinned and broken jambs and the arch of the doorway restored. Owing to saltpetre the arched panels on this side had to be re-plastered with lime as also the series of niches over the entrance. The north wall of the compound abutting on the road had fallen and was restored by the District Board when they were engaged in repairing the road close by. It is to be regretted that modern instead of *lakhauri* bricks were used in rebuilding this wall and that the row of small niches which existed on the inner face in the small preserved portions was not continued in the new work. The latter omission has been made good and two large cracks in the west wall grouted. The copings have also been made watertight.

Below the dome the temple is octagonal. It had four openings at the cardinal points alternating with false door panels. Of the former, that on the east was used as a doorway, the remaining three being closed with delicately carved stone *jālīs*. One of the latter openings had lost its *jālī* and been bricked up. This infilling has now been removed. Two broken arches of the temple, a part of the south *chhajja* and the bottoms of several corner pilasters were repaired; the compound was cleared of jungle and cracks in the platform round the shrine repaired. A notice board of protection was set up near the bridge where it can be seen easily from the road.

JAGESHVAR.

The stone floor between the Mṛityuñjaya and Pushṭi Devī temples at Jageshvar was renewed and the wooden railing of the *chhatri* of the former, which had been damaged by the cutting down of a walnut tree near the western end of the enclosure, repaired. The cracked lintel of the Jageshvar temple was strutted up on a vertical T iron frame, and the ridge pole of the new *bhogaśālā* supported on a wooden prop.

SARNATH.

To obviate the necessity of annual colour washing at the MUSEUM OF ARCHÆOLOGY AT SARNATH, the inner walls of the central room and the large

room in the south wing were treated with Calcarium washable distemper of Bath Stone colour and, as an experimental measure, concrete terracing was applied to a part of the roof of the south wing to prevent the appearance of moisture under the soffits of the Jack arches. Wire fencing was erected around the newly constructed quarters for the Custodian and Servants.

Carved and other stones lying about the CHANDEL TEMPLE at SAKURA in the Jhansi District and the rocky HALL at GEENJA in the Allahabad District were stacked. Clearance of jungle and dressing of compounds were carried out at SITA-KI-RASOI at MANKUAR in the Allahabad District, GHUGUA-KA-MATH at BARWA SAGAR in the Jhansi District and the BRICK TEMPLES at BAHUA and TINDAULI in the Fatehpur District. Notice boards were provided at the above-mentioned monuments, as well as at the FORT AT KARA, District Allahabad. Jungle was cleared from the BIJAIGARH Fort in the Mirzapur District, the old dilapidated railing around the GUPTA PILLAR at BHITRI in the Ghazipur District replaced by a new one and wire fencing around the pillar at Benares made taut.

Twenty-four standard enamelled notice boards were purchased and 20 of them fixed to central protected monuments. Agreements were executed in respect of 23 monuments.

PUNJAB : MUHAMMADAN AND BRITISH MONUMENTS.

By Mr. J. F. Blakiston.

LAHORE.

The year under report is the second year in which conservation works (both Hindu and Buddhist and Muhammadan and British) in the Punjab have been executed departmentally by this office. The programme attended to was as heavy as that dealt with in the previous year both as regards the special repairs to monuments and their annual repairs and maintenance and all the works, for which funds had been allotted, were successfully brought to completion. Detailed estimates were prepared for all annual repair works and the best use was made of the grants, which in most cases were very small under this head, while the savings owing to low tender rates offered by contractors were also usefully employed.

The total amount expended during the year on the Muhammadan and British Monuments in the Punjab was Rs. 1,01,125 out of which Rs. 24,041 were spent on annual repairs and maintenance, Rs. 57,775 on special works and the balance of Rs. 19,309 on the upkeep of the water pumping plants at the Archæological Gardens in Lahore and at Shahdara. The Lahore Fort was again the centre of activities and will continue to be so for a number of years to come till its layout on the lines of the Agra and Delhi Forts and the conservation operations therein are completed.

It was stated in the previous report that the southern *chabūtra* in JAHĀNGĪR'S QUADRANGLE had been paved with country bricks in diaper pattern. It had been proposed to pave the northern one in a similar manner, but it was

decided later that as this platform would be an important feature, being situated in front of the Bari Khwabgah, which is being fitted up as a small museum of mediæval armour and other objects of local interest, it should, though more expensive to execute, conform with the old Mughal design. Accordingly an estimate amounting to Rs. 5,112 for relaying the floor of this *chabūtra* after the design of the floor in front of the Chhoti Khwabgah was prepared and the work although started late in the financial year was completed before its close. This Quadrangle was laid out during last year but the plots formed by the pathways had not been grassed. This work was taken in hand and finished, the aspect of the court thereby being very much improved.

The courtyard of the DIWAN-I-AM having been cleared by the Public Works Department of the *débris* of Barracks Nos. 2 and 3 in June 1929 as noted in last year's report, steps were taken towards the laying out of the area and preparing it for planting shrubberies and lawns as soon as possible. Three estimates were prepared in this connection : (*i*) for raising the back and front walls of the ruined compartments or cloisters surrounding the Diwan-i-Am Courtyard two feet above the ground level, (*ii*) for levelling and dressing the whole area of this enclosure for turfing and (*iii*) for making pathways in the courtyard and steps up to the level of the platform in front of the Diwan-i-Am. The contractor who was given the levelling and dressing operations did not perform his work satisfactorily and accordingly the work had to be taken out of his hands and executed departmentally by daily labour, while the other two works were completed by the contractor in charge. In short the three works were brought to completion during the year under report, and the area is now ready for grassing in the plots formed by the intersection of the pathways and for the planting of shrubs around the courtyard on the sites of the old compartments.

It was stated in the last year's report that an estimate had been prepared for the distribution of water for irrigating this area. This work was also taken in hand side by side with the works referred to above. It has been executed through the agency of the Public Works Department, Punjab, at a cost of Rs. 13,320.

Latrines for the use of the inferior staff employed or to be employed in the fort have been constructed at the north-east corner of the fort and an old building of the time of the first British occupation of the fort is in course of conversion into quarters for the permanent staff, *e.g.*, peons, caretakers, gardeners, etc.

Works of repairs carried out at the Lahore Fort were the underpinning and sunk lime pointing to the 'Arzgāh; repairs to the *chhajja* of the Chhoti Khwabgah; the underpinning of certain portions of the fort wall especially at the south-east corner and the underpinning of the fine masonry work of the arches and jambs of the Hāthīpol Gate.

No special repair works were executed at JAHANGIR'S TOMB during the year. The annual repairs mostly consisted of the underpinning and pointing of the walls of the rooms surrounding the AKBARI SARAI and the enclosure wall of the same. Repairs to the decayed masonry of the platform wall around the tomb and the jamb of an arch to the north of the western gateway were also executed.

The floors of the rooms around the central chamber of the tomb have been relayed with *kankar* lime concrete and the broken plaster of the walls has been renewed. A portion of pavement at the south-west corner of the roof of the tomb had become loose and it has been reset in white cement.

With the exception of certain special repairs to a compound wall and a few other small items, which were undertaken at a cost of Rs. 1,590 at the TOMB OF MAHARAJA SHER SINGH (Plate IV, *c*) which is situated some three miles outside Lahore, only minor repairs have been executed at the other Lahore monuments and call for no special comment.

The work of installing an electric motor for centrifugal pumps at the well which supplied water to the HAZŪRĪ BĀGH garden, was commenced but could not be completed owing to some misunderstanding between the Electrical and Public Works Departments, who were executing the works on behalf of the Archæological Department.

At the BEGAM-KI-SARAI at ATTOCK (Plate IV, *b*) work was continued from the previous year. It consisted for the most part of patch-work repairs to walls and lintels of door openings and the collection of *murram* for spreading within the area. The expenditure here amounted to Rs. 2,008. An estimate for further work at this monument has been drawn up and after the items, consisting chiefly of more patch-work repairs provided in it, have been done little work beyond that of ordinary maintenance should be required at this *sarāi*.

No other works of importance except the special repairs to the temple at BAIJNATH, which have been noticed above in the paragraph relating to Hindu and Buddhist monuments, were undertaken in the Punjab by this office. Ordinary annual repairs were executed at all the other monuments.

GARDENS.

The ARCHÆOLOGICAL GARDENS at LAHORE were efficiently maintained by the Superintendent, Government Archæological Gardens. There was a fine display of multi-coloured 'annuals' in the beds around the central tank at the SHALAMAR GARDENS both during the autumn and spring months and the rose gardens on either side with their profusion of blooms in season, were much admired. Four small rose beds have been newly planted with fresh varieties obtained from England and the shrubberies laid out in the lower terrace a couple of years ago are doing well. The annual Chirāghān fair was held in this garden in the last week of March. On this occasion, owing to better arrangements having been made to protect the rose and flower beds and to the prompt measures adopted for the removal of the inevitable mess, the damage and inconvenience accruing from this *mela* was reduced to a minimum.

A sum of Rs. 4,107 was allotted by the Director General of Archæology for lowering, levelling and regrassing the plots in the lower or 3rd terrace. The amount, however, was received too late in the year to permit of the work being executed and was therefore surrendered. It has since been re-allotted and the work is in full progress.

Upon the completion of the section of the restored causeway near the entrance to the TOMB OF JAHANGIR, at SHAHDARA Clerodendron creeper was planted against the side wall, which is already entirely covered by a mantle of greenery, It is expected that it will be possible next year to complete the restoration of at least three more side walls of the causeways at this garden and it is confidently hoped that funds will be available annually for this work until all the side walls together with their brick paved pathways have been restored. A further strip of *kachcha* causeway to the south-east of the tomb was cleared of trees and date palms and the ground was levelled, grassed and planted with cypress trees in a manner similar to the other causeways. Apart from these minor improvements work followed approximately the routine of previous year, special care being taken to provide a good display of 'annuals' and flowering plants in the beds and borders.

At the HAẒŪRĪ BĀGH GARDEN near the Fort, dwarf Clerodendon hedges were substituted for the Duranta ones and are now well established. Owing to its proximity to the city, this garden is much frequented by city dwellers, so much so that the staff in charge find it exceedingly difficult to prevent damage to flower beds, etc., and are perpetually clearing up the rubbish left about on the lawns.

NORTH-WEST FRONTIER PROVINCE.

By Mr. J. F. Blakiston.

The conservation of the ancient monuments in the North-West Frontier Province was this year undertaken wholly by the Archæological Department. A proposal that the monuments in this Province should be transferred from the charge of the local Public Works Department having been submitted previously to the Government of India and although sanction to the transfer had not actually been received, it was considered unnecessary to place funds at the disposal of the Public Works Department except for one work, which was in progress from the previous year. The sanction of the Government of India to take effect from the 1st April 1930 was received in February.

Rs. 182 were spent on special repairs by the Public Works Department and Rs. 2,392 on ordinary annual repairs and maintenance by the Archæological Department.

The work of constructing an enclosure wall around the inscribed rock at SHAHDAUR, Agror Valley, Hazara District, referred to last year was continued in the present year and the work, the only special repair work, was brought to completion at an additional cost of Rs. 182.

It is hoped in the near future to extend works of special repair in this Province to Bilot Kafirkot in the Dera Ismail Khan District and to continue works at Takht-i-Bahi and Jamalgarhi in the Peshawar District, and at the Mansehra rocks in the Hazara District. The preparation of estimates in respect of these monuments is in hand and works will be executed after the estimates have been approved and funds become available.

BOMBAY PRESIDENCY WITH SIND.

By Rai Bahadur Daya Ram Sahni.

During the year under report the total grant for conservation works in the Western Circle amounted to Rs. 1,37,074, out of which a sum of Rs. 38,997 was expended departmentally and the balance of Rs. 98,077 allotted to the Public Works Department of the Government of Bombay for works undertaken by that agency. The whole of the grant was fully utilized save for a small sum of Rs. 1,293.

The expenditure on current repairs and maintenance charges was Rs. 37,037, the remainder being devoted to special repairs. Altogether sixty monuments received special measures of conservation. These works were all carried out under the guidance of Mr. Chandra. As that officer has been transferred to the Eastern Circle, the task of describing them has fallen to the writer. In spite of the very short time at his disposal, the latter has been able personally to inspect more than two-thirds of the total number of works executed during 1929-30 and the account that follows is based upon detailed notes made on the spot. Most of the photographs that accompany this description were also taken at the same time.

ELEPHANTA.

The conservation works undertaken by this office independently of the Public Works Department consisted of repairs to some twelve monuments. At ELEPHANTA the protection walls on either side of the main entrance portico to the GREAT CAVE were completed and attention given to the existing means for the drainage of rain water. The quarters for the menial establishment which were begun in the preceding year were also completed at a total cost of Rs. 7,050.

SHANWAR WADA.

The SHANWAR WADA FORT in the city of Poona, which was built by Baji Rao I (1720-40), the second Peshwa, has received considerable attention during the last ten years. The interior has been completely explored and whatever portions of the original palace remained, brought back to view and now await conservation. The preservation of the enclosing wall has gone hand in hand with the excavation operations. During the last year, the tops of the ramparts on the north and east sides were rendered watertight and only a few minor repairs now remain to complete this work.

BASSEIN.

The work carried out among the PORTUGUESE REMAINS in the BASSEIN FORT near Bombay consisted of petty excavations at the FRANCISCAN and ST. PAUL'S CHURCHES, which were undertaken to expose their floors and the lower portions of their walls. The only objects found were one or two broken Hindu images and a copper ewer (Plate VI, *d*) with a round body, a narrow neck, three short

legs, a curved handle, a spout and a lid fixed by a hinge of the same material. A similar vessel of the time of the Adil Shahi Kings was found in the moat, surrounding the Ark Qila, the ancient citadel of Bijapur, and is now preserved in the Museum of Archæology there. The jug found at Bassein must therefore be of the same date.

AHMEDNAGAR.

In the Annual Report for 1925-26 Mr. Chandra drew attention to the resemblance of the plan and elevation of the waterpalace known as FARIA BAGH at AHMEDNAGAR (built in the time of Burhan Shah of the Nizam Shahi Dynasty) to those of the Taj at Agra and the tomb of Humayun at Delhi. The original estimate for repairs to this interesting monument, which was framed in 1925-26 and amounted to Rs. 8,430 has already been exceeded and a revised estimate is necessary to provide for further measures required. The operations to be mentioned in the present report related to the restoration, with new stones, of the coping of the retaining wall of the octagonal platform on which the palace stands and similar repairs to the plinth of the several open recesses. It may be observed here in passing that the square tank around the palace is only about three feet deep, and not seventeen as wrongly stated in the Gazetteer of the Ahmednagar District.

KARLA.

Two important improvements carried out at KARLA during recent years were the levelling up of the area in front of the caves, the demolition of the modern booths erected for use at fairs and the construction of a channel along the brow of the hill for the diversion of rainwater from the front of the caves. The compound had also been completely enclosed by a surrounding wall of stone rubble and this has now been provided with a neat stone gate. It is gratifying to observe here that the Government of Bombay have decided to take over the maintenance of the small link road from the Poona-Bombay road to the foot of the Karla hill.

JOGESVARI.

The JOGESVARI CAVE, which is probably the largest known Brahmanical cave temple next to the great Kailāsa at Ellora, exhibits a marked resemblance to the main cave at Elephanta in its general plan, in the style of its pillars and the nature of the sculptured reliefs with which it is adorned. The subjects delineated on this cave which find their exact counterparts at Elephanta are the marriage of Śiva and Pārvatī and Pārvatī in a temper over the inner doorway of the porch on the east, the great Tāṇḍava dance above its outer doorway, and Rāvaṇa's attempt to uproot the Kailāsa over the outer doorway of the isolated portico on the east. The relief between the scenes showing the marriage and the quarrel, which does not appear hitherto to have been correctly identified shows Lakulīśa holding the usual staff in the left hand. This deity is also portrayed above the west doorway of the central shrine in the main hall. One or two reliefs on the wall between the middle and the western doorways opening

into the verandah on the south side do not appear to have been noticed anywhere. They require first to be cleaned up. The Jogesvari temple must originally have been dedicated to Śiva. According to the *Cave Temples of India* (1880), p. 477, the central shrine contained a large *liṅga* on a square *sālunkha* or pedestal. The slab containing the *pādukā* of Jogesvari or Durgā with the modern wooden canopy above it, referred to in the Gazetteer published in 1882, must therefore have been installed during the two years preceding this date. The *liṅga* may still be buried under the modern raised floor or may have been removed. The steps leading to the four doorways of the central shrine are also modern and require repairs. It would be very interesting to do away with the modern *pādukā* slab and the wooden canopy and to dig the floor of the central shrine down to its original level. The original rock-cut steps on all four sides could also then be exposed and repaired. The temple, however, does not belong to Government, and the owners are not likely to agree to any drastic measures of this kind.

Until 1925-26 the interior of the Cave temple was buried under a thick layer of *débris* and silt deposited by the inrush of water through the open passages on the east and the west, and the open courts on the east and the south under huge boulders fallen from the hill in which the temple is excavated. All this *débris* and silt have since been cleared away and a channel cut through the fields to carry off rain water from the original rock-cut drain at the south-east corner of the temple. Steps have also been taken to prevent the flow of rain water into the cave and even during the monsoon the greater part of the monument is now free from water. The only portions that continue to be flooded are the two corridors on either side of the inner entrance portico on the east side. This is due to leakages through a deep channel in the top of the rock which passes immediately over this portico. Arrangements will soon be made to make it watertight. Other measures are, however, necessary for the preservation of this interesting temple. The rock from which the temple has been excavated is a friable variety of trap, which has deteriorated considerably during the twelve centuries that the temple has been in existence. The portions of the monuments that have suffered most seriously from this cause are nine out of the ten pillars which support the outer eaves of the southern verandah, the pillars of the western portico and those in the outer eastern entrance. Repairs to one of the pillars at the east end of the southern verandah were taken in hand in 1928-29 and successfully completed, in exact imitation of the well preserved pillar adjoining it. The cost of this work has been only Rs. 522, and it seems extremely desirable to gradually treat the other decayed pillars in the same way.

BIJAPUR.

The only other work undertaken departmentally during the past year was the acquisition, at a cost of Rs. 10,928, of a large area of land to the south of the unfinished TOMB of 'ALĪ II 'ĀDILSHĀH (1656-1672) at BIJAPUR which remains dirty and will now be suitably laid out with lawns and will also enable the provision of a proper approach to this *monument*.

The works carried out by the Public Works Department are detailed below :—

Of the numerous buildings with which the 'Ādilshāhī kings (1489-1686) adorned the city of Bijapur, as many as 117 are included in the list of central protected monuments. The majority of these buildings are situated within the great city wall which is still standing to its former height over more than half of its original circuit of 6¼ miles. Some 20 of these structures lie within the inner citadel or Ark-Qila which has a circumference of over a mile in length.

Special repairs were carried out to fourteen out of the protected monuments during the year under report. A large section, 29 feet in length, of the north bastion of the MANGOLI GATE or FATḤ DARWAZA in the outer city wall had fallen down. This has been repaired and only the battlements at the top remain to be restored. Similar repairs have been carried out to a large section of the curtain wall adjoining the ZOHRAPUR GATE as well as to the double flight of steps ascending to the platform on the top of the rampart in the section adjoining the small gate to the east of the Gol Gumbad. A suitable parapet wall has also been added along the inner edge of the staircase leading to the top of the LANDA QASSAB BASTION. This is an innovation but has been provided for the convenience of the numerous visitors who inspect this bastion on account of the two guns, a small one and a large one, which have remained upon it from the reign of the 'Ādilshāhī dynasty. It may perhaps be worth while to replace these guns in their original positions under the supervision of a military expert. A systematic effort is being made to rid the city wall of the cactus bush which envelopes parts of it, and during the last year a length equal to three-fourths of a mile was freed from such jungle.

At the TOMB of MUḤAMMAD 'ĀDILSHĀH (1626-1656), generally known as the GOL GUMBAD and probably the biggest domed hall of ancient times, the most important item of conservation during recent years has been the filling up of the cracks in the dome. An estimate amounting to Rs. 8,873 was framed in 1924 for treating these cracks. Six of them have already been successfully repaired and it is expected that the unspent balance of Rs. 1,000 will be sufficient for the filling up of the two cracks that still remain to be attended to. Another piece of work carried out within the precincts of the Gol Gumbad was the repair of four of the arches of the arcaded *dalans* on the south side of the Naqqārkhāna.

Repairs to the MASSA BAUDI (Sanskrit MATSYA-VĀPĪ) or the Fish Tank to the north of the Mausoleum of Muḥammad, have now been finally completed, and it has also been ascertained definitely that the elevated cistern on the south side of this tank, which was filled with water drawn up by a *mot* from the tank, was really meant to feed the water tower at the north-east corner of the compound wall of the Gol Gumbad. This latter water tower requires repairs and, when it has been put in order, it will be possible to use it for irrigating the lawns on the east side of the Gol Gumbad.

The ĀTHĀR MAḤAL, also built by Sulṭān Muḥammad is, according to a local tradition and a Persian inscription of the Hijra year 1111 engraved upon a stone slab, the repository of two hairs of the beard of the Prophet of Islam. These relics are kept in one of the rooms upon the upper storey. Another room in the

same storey was decorated with oil paintings, parts of which have survived in a much defaced condition. The outer caves of the roof of the one-storyed hall on the east side of the palace are supported upon four huge teakwood pillars composed of uncut logs lined with dressed timber work to give them an octagonal shape. These planks had decayed and are now being renewed. Attention was also given to the wooden *chhajja* to the eastern hall, which had lost its original covering and has now been successfully treated with a layer of malthoid. Another improvement effected at this monument consisted in the laying out of the open grounds to the north and east of the main building with *murum* paths and grassy plots. The JAHAZ MAHAL to the north and the PANI MAHAL to the east of the Āthār Maḥal, which presumably did duty as gateways to the central building, need repairs.

The TAJ BAUDI, named after Taj Sultana, the Queen of Ibrahim II Adilshah, is the largest monument of its kind in Bijapur. The entrance to the tank which faces the north, is spanned by a high arch 35 feet across and on both sides of it stretch long lines of arched *dalans*, no doubt meant for the accommodation of travellers, etc. The *dalans* on the east side of the entrance include a large chamber covered by a dome half of which has fallen down. The exposed section of the existing portion was treated with lime and gauged concrete. The *dalans* further to the east of this chamber have perished but excavations carried out last year have brought to light well built cellars underneath them. Further excavation in the open area on the south is necessary, the more so as similar chambers appear to exist along the outer face of the east wall of the tank. A proposal to acquire the area between this monument and the Jod Gumbad is under consideration and it will then be possible to improve the grounds attached to both these monuments on suitable lines. The outer plinth of the *dalans* on both sides of the entrance gate is also being exposed and an area, 66 feet in width, is being excavated to the original level. When this work is completed it will be necessary to protect the area thus exposed with a retaining wall capped with an iron rail.

The GUJAR BAUDI to the east of the Mausoleum of Ali II Adilshah was a dirty pool of stagnant water and the area around it much misused by the people living in the neighbourhood. A low surrounding wall was erected around it last year but if this does not succeed in improving matters it will be for consideration whether this tank should not be filled up outright. Its retaining wall has disappeared and there is nothing of special interest about it.

Among the buildings outside the city of Bijapur, only three or four received special repairs during the last year. They are situated at NAURASPUR, four miles to the west of Bijapur. Nauraspur is stated to have been founded by Ibrahim II in A.D. 1599 but never occupied by him. At SANGIT MAHAL (Music Hall) which is an almost exact copy of the Gagan Mahal at Bijapur, though of a somewhat smaller size, all necessary structural repairs had been carried out in previous years. Excavations carried out in the area to the north of the building last year have brought to light the existence of a large tank about 126′×136′, thus showing that a similar tank probably lies buried to the north of the Gagan

Mahal. From soundings taken by the Public Works Department, the tank attached to the Sangit Mahal appears to be at least 12 feet deep.

The Nārī Mahal or the Women's Palace, which stands just opposite the Sangit Mahal, is surrounded by a high compound wall. This small palace which was also designed on the lines of the Gagan Mahal is now a complete wreck and, as suggested by Sir John Marshall in 1921, no funds should be wasted upon its repairs. The compound wall has, however, been almost completely repaired by underpinning, etc., both on the inside and out and what little work remains to be done will be completed in the course of the next year.

The only other works carried out at Bijapur that need be mentioned are the construction of a surrounding wall on three sides of the Mulla Mosque, the area on the fourth side not having been acquired as yet; the erection of stone boundary pillars around certain monuments to demarcate lands belonging to them; repairs to the surrounding wall of the Mehtar Mahal; the acquisition of land for the purpose of digging a channel to carry off rain water from the low-lying ground around the Begam's Mahal at Ainapur; and the provision of a new velvet curtain in front of the beautiful central *mihrab* at the Jumma Masjid.

His Excellency the Governor of Bombay inspected some of the monuments at Bijapur and certain necessary improvements to approaches to buildings and other minor measures were carried out in that connection.

No ancient Hindu or Jaina buildings have survived at Bijapur and the only evidence of their former existence is supplied by two or three mosques, *viz.*, Mosque No. 294, situated in the compound of the Collector's bungalow, Karimud-d-din's Mosque and a third and smaller mosque on the way to the Mangoli Gate, which are all adaptations or re-erections of materials obtained from temples. These mosques are the earliest Muhammadan structures and one of them, *i.e.*, the one constructed by Karimud-d-din, must according to a Persian and a Nagari inscription engraved upon its pillars, have been erected in the year 1402 Saka=A. D. 1324, soon after Malik Kafur's conquest of the Deccan.

The temple at Chhatargi, distant 32 miles from Bijapur and some 9 miles from Hippargi, was declared a protected monument in 1928. It is constructed in the Pallava style of architecture and its lower portions were hidden under *débris*. The necessary clearance was carried out last year (Plate VI, *c*).

The temple consists of a square cella preceded by a square *maṇḍapa* with an entrance portico on each of the remaining three sides and an outer gateway built much on the lines of the *maṇḍapa* and standing 35 feet to the east of the main structure. The whole monument was originally surrounded by an enclosure wall but no portions of it have survived. Among the images with which the exterior is decorated special mention may be made of those of the eight Dikpālas, of Vishṇu and his incarnations, and of dancing girls, etc. A slab representing the Seven Mothers is built in the interior of the *maṇḍapa* and one or two images of Gaṇeśa were discovered in the excavation. The Śiva-liṅgam which was originally worshipped in the sanctum is now lying in the *maṇḍapa* and a six-armed figure of Dattātreya, described in Sanskrit texts as an incarnation of the Brāhmanical trinity, is now worshipped in its place. The

monument is in a fairly good state of preservation and the repairs required are not likely to cost more than Rs. 3,000.

Ahmedabad.

The monuments at Ahmedabad in Gujarat were built by the kings of the Ahmadshahi dynasty (1410-1556). They are all built in a mixed Hindu and Muhammadan style. During the year under review only a few works of special repair were carried out to some of the monuments in the City of Ahmedabad. At *SIDI SAYYID'S MOSQUE*, so well known for its exquisite tracery work, earth and *débris* have been cleared away to the original floor level from the south and west sides of the prayer chamber. The plinth on the east side was naturally hidden behind the platform in front. The sides of this platform are now buried under *débris* and the later enclosing wall, and as the whole of this area has recently been treated with lawns and flower beds, it would be inadvisable to disturb them. The only thing required is to construct two or three steps in the space between the boundary wall on the south side and the corner of the prayer chamber to give access to the area that has been lowered by excavation. The small bit of modern walling on the opposite side should also be demolished and steps provided in its place. The surrounding wall on both the north and south sides should then be extended westward so as to enclose an area of some 15 feet behind the mosque.

Dada Harir's or Bai Harir's Step Well, Mosque and Tomb must originally have formed together one estate and probably been surrounded by a common enclosure wall. According to two Persian and Sanskrit inscriptions built in the wall of its staircase, the step well was constructed by a lady named Bai Harir, who was the chief door-keeper in the Harem of King Mahmud Bigarha in the year Samvat 1556 (A. D. 1499). The mosque and the tomb must also have been constructed about the same date. The Persian inscription further informs us that the well was surrounded by a garden of fruit trees. The tomb and the mosque are situated upon one and the same platform and there are indications to show that the tomb must have been erected sometime after the mosque. The retaining walls of this platform on the north side and partly also on the east side are hidden under *débris* and can be brought back to light if the modern enclosure wall built along the entire north side of the step well and the mosque and the tomb can be got rid of. A separate proposal for the acquisition of a strip of ground on the north side of the monuments and other improvements is under consideration. During the year under report some petty repairs were carried out to the stone platform on the north side of the well and a small shed for the caretaker constructed to the south of it.

The Queen's Mosque and Tomb in the Sarangpur quarter of the City of Ahmedabad, built in the time of Mahmud Bigarha, were declared as protected monuments in 1909. In 1910 the management of these two monuments along with that of eight other monuments in that city was transferred to the Ahmedabad Sunni Muslim Waqf Committee. The Department has failed so far to obtain agreements under section 5 of the Ancient Monuments Preservation Act of 1904

from the aforesaid committee and little attention has been paid to these monuments, save for the usual current repairs. Two important measures of improvement are urgently needed but they cannot be carried out in the existing conditions. One of these relates to the proper drainage of these buildings. The inner compound between the Mosque and the Tomb is now three to four feet lower than the level of the streets around them. The lane behind the mosque occupies a still higher level than the streets on the other three sides with the result that the whole of the plinth and the elegant perforated windows in the back wall of the prayer chamber are closed up and all light and ventilation completely shut off from that direction. A little excavation was carried out in this lane during the year under report and disclosed parts of the windows. The rest of the work, however, is precluded by the existence of a modern building which has two or three doorways opening into this lane. The only solution to my mind would be to acquire the modern house, to dig the ground down to the original level and to arrange for the drainage of the area through the underground municipal drainage. The rain water from the interior of the building could also be similarly disposed of. I understand that an application in this respect was made to the Municipality of Ahmedabad but that they declined the request on the ground that their underground drainage is only meant for sullage water. The other improvement required is the demolition of the modern infillings from the interspaces between the columns of the tomb. This action was suggested by Mr. Page as long ago as 1914 but apparently, owing to the difficulties referred to above, it has not been possible to carry out this important measure.

The MOSQUE and TOMB of SAYYID USMAN, the vizier of Mahmud Bigarha (1459-1511), situated to the west of the City of Ahmedabad across the Sabarmati River, are in a good state of preservation. Three *kanguras* on the west side of the tomb had disappeared and a few of the *chhajja* slabs on the same side were broken or displaced. New *kanguras* made in imitation of the original ones have been supplied and the *chhajja* slabs repaired with reinforced concrete (Plate VI, *b*). Certain petty repairs were also carried out to the mosque where a broken carved lintel of one of the windows in the south wall of the prayer chamber was replaced by a new lintel carved in imitation of the original one. In earlier years several capitals, lintels, etc., of the ceilings of this structure were repaired and require to be toned down in colour. The repairs then carried out to the central *mihrab* are unsatisfactory and the new masonry somewhat out of plumb. This need not, however, be disturbed now. The construction of a narrow well in the compound between the tomb and the mosque is reminiscent of the early Buddhist wells like which it is composed of terracotta rings piled upon one another. The lower portion of the steaning has fallen in. As there is no other well in the neighbourhood, this well may be repaired by the insertion underneath the steaning of a Hume pipe of suitable width with a wooden ring below the terracotta ones. The small mosque at the village of KOCHRAB PALDI to the west of the City of Ahmedabad is a pretty little structure. There is no inscription to be seen in this monument and its date and the name of its builder cannot be ascertained. The building is in a good state of preservation but the top of the platform is

rough and requires to be levelled up. A narrow strip of ground was enclosed around this mosque by a wire fencing some ten years ago and a stone gate was provided last year. The area enclosed requires to be dug down to the original level and when this is done the excavated earth should be heaped up behind the mosque where the earth has been scoured away by rain water.

The JUMA MASJID, which is the largest monument at Ahmedabad, was constructed by Ahmadshah (1410-42). This building is in the charge of the Muslim Waqf Committee, and is in an excellent state of preservation. A feature of this monument, which is also noticed in certain other monuments of Ahmedabad, is a large cistern under the spacious courtyard in which rain water is collected for use in the dry season. A small well in the southern portion of the courtyard, composed of terracotta rings, like the one in the mosque of Usman referred to above, had lost the parapet wall and this was provided last year with funds supplied by the Waqf Committee.

Among annual repair works at Ahmedabad mention may only be made of those effected at the Bhadr or the citadel of Ahmedabad which was constructed by Ahmadshah, the founder of the Musalman dynasty of Gujarat. Only the south-east portion of the citadel has now survived and comprises a triple gate and a large quadrangular building known as the PALACE of AZAMKHAN, which, to judge from a Persian inscription engraved upon its east gateway, was constructed by Shah Jahan's vizier of that name in the Hijra year 1047 (A. D. 1637). This building is, at present, in the charge of the Public Works Department and its east wing is used as the Post Office, the rest of the building being occupied by the office of the District and Sessions Judge. The repairs carried out last year related to the underpinning of decayed face work. Extensive repairs are required at the eastern portal of the triple gate and a proper scheme is under preparation.

VIRAMGAM.

The MANSAR TANK at VIRAMGAM, distant 35 miles from Ahmedabad, is an irregularly shaped tank averaging 1,200 feet in length by 360 feet in width. The construction of this tank is attributed to the Chalukya king Jayasimha Siddharaja about the middle of the 12th century A. D. No dated inscriptions have been noticed anywhere on this reservoir. There are, however, numerous short documents mentioning the names of masons who had come from Rajputana, etc., and the style of characters well approximates to the traditional date referred to above. The tank is surrounded on all sides by a continuous line of flights of steps descending from a broad paved platform, 16 feet in width, around which is a retaining wall 6′ 4″ high and 2′ 9″ thick at the level of the platform with a backing of brick laid in lime behind it. All round the platform was a series of small shrines in typical Northern Indian style, which originally numbered over 500 and were dedicated to Siva and Vishnu. 326 of these shrines are still extant with or without their curvilinear *sikharas* and the positions of the others are easily determined by small crosses engraved in the stone pavement. Only a few of the *lingas* have survived, other cult images have disappeared. A

narrow hole runs through the *sikharas* of all the existing shrines at a uniform height above the floor. Tradition has it that a long rope was passed through these holes and when pulled at one end, simultaneously sounded a whole series of bells suspended from the *sikharas* of all the shrines. Four larger temples, *i.e.*, one in the middle of the west side, two on the south and one on the north side, also deserve mention. Another feature of this tank is an octagonal silt well through which rain water passed into the tank by a stone lined channel. This channel is bridged over with a horizontal slab culvert of the same date as the tank and surmounted by a temple which was repaired in the Mahratta period.

Repairs to the surrounding wall and the platform around the tank were taken in hand in 1926-27 and the total expenditure up to date amounts to Rs. 23,015 out of a revised estimate of Rs. 24,965. The Viramgam Municipality promised to contribute a third of the total cost of this work but so far only Rs. 4,500 has actually been realized from them. The work carried out during the year 1929-30 embraced the reconstruction with original material, as far as possible, of 180 feet of the surrounding wall on the south side. Further repairs to this wall and to the larger shrines are necessary.

Dholka.

Dholka is 22 miles to the south-west of Ahmedabad. The tomb of Bahlol Khan is believed to be the oldest monument at Dholka, but who Bahlol Khan or Bilal Khan, as the name is sometimes spelt, was, is not known. Extensive repairs were carried out to this monument in past years in accordance with Mr. Page's conservation note dated June 1914. During the last year the ablution tank in the courtyard of the monument was duly repaired. The *débris* cleared from the interior of the monument is lying to the south of it and the area presents an ugly appearance. It is not likely to be required for any repairs and might perhaps be disposed of by auction. The Malav Tank, which is a somewhat smaller reservoir than the one at Viramgam, was also like the latter originally surrounded by miniature shrines. Its construction is attributed to the mother of Siddharaja referred to above. The monument was declared as a protected monument in 1915 but, for want of funds, it was not possible to undertake any special repairs to it. A detailed scheme for its conservation has recently been prepared by Mr. Chandra and approved by the Director General of Archæology in India. The Khan Mosque across the railway line is in a precarious condition owing to the outward settlement of the west wall and to a long crack that runs through all the three domes. Cement tell-tales put across the crack at several places in 1926 have all broken, thus showing that the settlement has not yet ceased. The two towers which served as abutments to the now extinct screen of lofty arches in front of the mosque are also in a dangerous condition. The little pavilion on the top of the southern tower was repaired a couple of years ago but its inner or north face at the springing of the missing arches is much dilapidated.

CHAMPANER.

CHAMPANER is a very ancient city. In Hindu times it apparently occupied the hill known as Pavagadh and the areas round about it. The city was conquered in 1484 by Abul Fath Mahmud of Gujarat who founded a new city of his own which he called Mahmudabad, and surrounded it with a high stone wall with four gates. This is manifest from two Persian inscriptions engraved upon the east or Godhra Gate and the south or Halol Gate. Champaner continued to be the political capital of Gujarat till the death of Bahadurshah in 1536. About a dozen other buildings, besides the citadel wall and its gates, have survived. During the year under report special or current repairs were carried out to the GODHRA or east gate, the citadel wall, GEBALSHAH'S WELL, the MANDAVI or the Custom House, the JUMA MASJID, the KHAJURI MOSQUE, the gates on the Pavagadh Hill and the Lila Gumbad. The work at Champaner is being carried out in accordance with an estimate amounting to Rs. 1,05,223 and the total expenditure already incurred amounts to Rs. 90,090. During the last four or five years the average annual allotment has been about Rs. 3,000. The Godhra gate to which an outer gate surrounded by brick walls and a stone barbican wall were added in the Mahratta period, was in a very ruined condition and the village traffic passed right through the west side instead of through the inner gate on the north. The work carried out during the last year is exemplified in Plate VII, c and shows the reconstruction of the wall adjoining the middle gateway on the north side, together with the entrance of the staircase behind it, on the ground and first floors. The guard room in front of it had completely perished. The loose *débris* was cleared away and the platform and the pillar bases put in order. The west wall facing the town is under repair. A large hall adjoining this gateway on the south side and measuring $105' \times 57\frac{1}{2}'$ internally was partially explored during the year 1928-29 and yielded a large mass of coats of mail, several pieces of cannon and cannon balls of stone and iron. This work has now been completed but massive blocks of concrete terracing from the roof fill the hall from one end to the other. These will be cleared away in due course. Similar operations have been extended to the north of the Godhra gate inside the citadel wall and have revealed two original drains which will now again be utilized for carrying off rain water and the sullage of the town which had hitherto passed through the Godhra Gate. The outer wall of the citadel on the south side was hidden under a thick layer of *débris* which rose at places to nine to ten feet above the original level of the ground. A strip of ground some 30 feet in width was freed from this *débris* over a length of some 300 yards and revealed dwellings of the mahratta period. A feature of these dwellings was a number of large sized earthen jars buried in the ground for the storage of water, corn, etc. One of the rooms contained an underground chamber which must have been used as the treasury of the house. In the bottom of this chamber are two small square stone-lined holes which were originally fitted with wooden lids and in which, presumably the more precious valuables were kept.

The repairs to the ancient culvert over the VISVAMITRI NALLA to the south of the citadel, have now been completed with the exception of one of the return.

walls on the east side. The date of this culvert is not known. The road leading to this culvert from the south gate of the citadel has also been roughly levelled. In ancient times this must have been one of the principal roads leading from the city of Mahmud to the ancient Hindu city. Not far from the culvert was found a large earthen jar which contained a small iron-anvil, a thick chisel and a small copper coin. By the side of this was a lamp attached to a vertical iron rod, by which it was fixed in the ground. The conservation of SHAHR-KI-MASJID or BOHRA-KI-MASJID (Plate VII, *a* and *b*) inside the citadel which has been in progress for several years is all but complete. All that now remains to be done to this monument is the restoration of the uppermost course of the retaining wall of the platform in front of the mosque and the replacement in their original positions of a number of *kangura* stones, roof spouts and other members which are lying about the site. A little clearance to the east of the platform is also necessary and, if funds are available, the flight of steps on the north side of the platform might also be repaired. These steps are supported upon a hollow chamber which was used as a guard room or for other purposes. Other works carried out at Champaner included petty repairs to the colonnaded chamber, known as the MANDAVI near the centre of the citadel; four of the gates on the PAVAGADH HILL, where roofs were made watertight and bulging portions of the walls rebuilt in plumb; the JUMA MASJID, one of the finest mosques in Gujarat where portions of corridors were freed from *débris*. A covered underground passage or drain (Plate VII, *d*) which runs along three sides of the Lila Gumbad Mosque was partially cleared out. This passage is 8 feet wide, lined with walls of cut stones and covered over with a roof of flat slabs. The exact purpose of this structure will only be known when its excavation is completed. Enclosed within three sides of this passage to the north of the platform of the mosque is a line of three tiny underground chambers with staircases which might have been solitary chambers for meditation (*khilwat-khana*). Only one of these chambers has so far been excavated. The JUMA MASJID, built by Mahmud in A. D. 1508-09, is decorated with some of the finest carvings met with in any of the monuments of this period. Two or three roof panels in the central bay of the prayer chamber which have been partially freed from a thick coat of *chunam*, are particularly rich and beautiful. The last year witnessed the completion (Plate VIII, *a*, *b*) of the preservation of another interesting monument at Champaner. This is the KHAJURI MASJID. This work was begun some nine years ago and has cost Rs. 4,581. The repairs carried out last year consisted in the rebuilding of the minaret at the north corner up to the roof of the prayer chamber. How much higher it originally was is not known. No more repairs are now needed except the refixing of one or two *chhajja* slabs and one or two other small items, but these can be carried out from the grant for current repairs. Nine warning notices were provided to some of the principal monuments at Champaner.

KANKANPUR.

The temple at KANKANPUR in the District of Panch Mahals was first visited by Mr. Page in November 1914 and notified as a protected monument in 1915.

The temple consists of three shrines of equal size, disposed in a line from north to south and each preceded by its own separate domed *mandapa*. They stand upon a common platform on the north side of which stands by itself a fourth shrine of similar size. The triple temple was dedicated to Siva but the three *lingams* which were originally worshipped in its three shrines, have long since been removed and are now said to be installed in a modern temple known as Jalesvara Mahadeva at the same village. The separate shrine was, to judge from the sculptures *in situ* on its walls or excavated in *débris* around it, devoted to the cult of Vishnu. Among the sculptures referred to, special mention may be made of an image of the Narasimha incarnation of Vishnu, about to destroy the demon Hiranyakasipu who is caught in the bent leg of the deity. Prahlada, the pious son of the Demon, is standing in a reverential attitude to the right of the deity. Another sculpture shows four-armed Brahma very similar in style to an image from Java now in the Indian Museum, Calcutta. Other sculptures on this and the three Saiva shrines represent other Brahmanical deities, including Kalki, amourous couples, etc. The Vishnu shrine is constructed, up to the roof, of a somewhat redder kind of stone and the sculptures belonging to this shrine can be easily distinguished from those fallen from the Saiva temple. Several lintels, capitals and pillars of the triple temple were reset or repaired in accordance with Mr. Page's recommendations several years ago. The platform and the lower portions of the shrines which were buried under their own *débris*, were exposed in 1928-29 at a cost of Rs. 600 and during the last year the retaining wall of the platform was rebuilt. Several other pillars and doorways of the shrines are, however, out of plumb and a number of stones found in the *débris* can be restored to their original positions.

BEGAMPUR.

An important work of special repair carried out during the year under report was that at the BEGAM'S TOMB at the village of BEGAMPUR or Ghodeshvar, situated 25 miles south-west of Sholapur. The Begam who lies buried in this tomb, according to the Sholapur Gazetteer, page 411, was a daughter of the Mughal king Aurangzeb who died when her father was camping at Brahmapuri on the opposite side of the river Bhima on the left bank of which the tomb is situated. The tomb stands in the centre of a large open courtyard surrounded by a high battlemented wall with a number of bastions. The main entrance is on the east side and a mosque stands inside the west wall of the enclosure. The monument was brought under the protection of the Ancient Monuments Preservation Act in 1917 but no repairs were carried out to it until 1928-29. The total expenditure up to date amounts to Rs. 9,666 out of the estimated cost of Rs. 25,276. The work already carried out consists of the removal of most of the trees from the interior of the monument, the reconstruction of the retaining wall behind the monument on the bank of the river. the rebuilding of the enclosure wall to the south of the mosque with the exception of the battlements, and repairs to the well and the cistern outside the north-west corner of the enclosure from which water was conveyed to a fountain between the tomb

and the mosque. A number of modern houses to the east of the monument which obstruct the full view of it have to be removed and the acquisition proceedings are in progress.

The only other works that deserve mention were the removal of trees from before the BUDDHIST CAVES at KONDANE and from the walls of the fort at BADAMI, District Bijapur, the clearance of loose stones and *débris* from around the TOMBS of the FARUQI KINGS of THALNER, repairs to the compound wall of the SUVALI TEMPLE at BADAMI and repairs to the compound wall of the tomb to the north of Mirza Isa Khan's Tomb at Tatta, which had been washed away by rain. Mention should also be made here of some interesting clearance work carried out at the JAINA CAVE TEMPLES in the TANKAI HILL at Ankai, six miles south from Manmad Station. One of the Jaina images found in the *débris* is illustrated (Plate VI, *f*). On grounds of palæography these images are attributable to about the 11th century A. D. Repairs to bastion No. 10 of VIJAYADURG FORT, District Ratnagiri, for which a sum of Rs. 5,000 had been allotted during the past year could not be taken in hand as the Executive Engineer in charge was of opinion that it would be economical and convenient to do the whole work at a stretch.

BIHAR AND ORISSA.

By Mr. M. H. Kuraishi.

In the Central Circle a sum of Rs. 56,965[1] inclusive of agency charges, was expended on the conservation of ancient monuments in the year under review. Of this sum Rs. 28,995[2] were spent in the Bihar and Orissa Province, *viz.*, Rs. 24,477 on Special Repairs (non-recurring charges), Rs. 4,518 on Annual Repairs (recurring charges) and Rs. 2,180 on the acquisition of a site for exploration. The residue of Rs. 27,970 was spent in the Central Provinces where Rs. 15,328 went to Special Repairs and Rs. 12,642 to Annual Repairs.

The grants for the two Provinces were Rs. 30,284 and Rs. 28,424 respectively; and the sums that were allowed to lapse unutilized were thus Rs. 1,289 and Rs. 454.

With the exception of the operations at Nalanda in Bihar, which were carried out by the Archæological Superintendent direct, all conservation work in the Central Circle was done through the agency of the Public Works Department, an additional charge of Rs. 23 per cent. in the Bihar and Orissa Province and Rs. 30 per cent. in the Central Provinces on the estimated cost of the work being paid by the Archæological Department for this service.

NALANDA.

On the conservation of the excavated remains at Nalanda an allotment of Rs. 5,000 was spent in full. The repairs carried out are detailed below.

[1] Includes Rs. 2,180 spent on acquiring the ancient mound of Chankigarh in Bihar against an allotment of Rs. 2,750.

[2] Includes expenditure on Nalanda (Rs. 5,000), on Municipal taxes paid for Arrah House (Rs. 429), and on the uniforms, belts and badges for the Archæological chowkidars (Rs. 272) incurred by the Archæological Superintendent direct.

MONASTERY SITE No. 1. The bulk of the repair work needed at this Monastery had been finished in the previous years as described in those reports. The only conservation work carried out during the current year consisted of relaying with fresh concrete the floors of all the cells and verandahs in the north half of the uppermost structure, providing a drain in front of the cells for carrying off rain water from the cells and verandahs down into the north-west corner of the lowest level courtyard, and watertightening with concrete concealed beneath brick hearting in mud the tops of all such walls of the uppermost structure as had not been so treated previously.

Before the introduction of reinforced concrete lintels in the conservation work at Nalanda, later structures above, and projecting beyond the line of, the earlier ones were supported on rail iron cantilevers. As these cantilevers are exposed to the weather and are thus liable to rust, they have been encased in concrete.

As in Monastery No. 1, most of the conservation work needed at STŪPA SITE No. 3 had been done during the previous years, and the following minor works alone were carried out this year: The little image-*chabūtra* on the top of the *stūpa*-mound was repaired in accordance with the plaster indications existing on its south side.

The out face of the original hearting that rises above the 6th *stūpa* stair on the north side of the mound was underpinned with new bricks in lime mortar.

The pavements of the 5th *stūpa* along the east front and of the 6th *stūpa* along the north front were relaid with concrete with a sufficient fall to facilitate flow of rain water into the new drains.

The tops of a few of the small votive *stūpas* around the main *stūpa* mound which awaited attention were made watertight with concrete sloped slightly from the centre to the circumference and finished off with brick hearting in mud.

Conservation work at MONASTERY No. 4 was taken up mainly with a view to providing drainage for rain water accumulating in the site, both on the upper and the lower levels exposed. The floors of the cells and verandahs in the south half of this monastery were relaid with lime concrete with a slope to drain away rain water down into the courtyard of the upper level structure. This courtyard was also relaid with 6″ of lime concrete on a 3″ soling of rammed brick bats with a proper slope to allow rain water to escape towards the north-west corner where an old drain exists in the parapet wall of the east verandah. The cells of the lower level structure in the north half also received similar treatment. The two separate stairs of different periods in the south-west corner of the monastery were repaired and provided with new concrete treads. The *débris* between these two stairs were raked out and replaced by a concrete retaining wall about 3 feet thick in the door opening belonging to the earlier stair. The landings of the lower stair were suitably repaired.

The collapsed walls of the cells on the east side of the courtyard of MONASTERY ANNEXE SITE No. 5 had been repaired in the previous year. During the year under report repair and underpinning of the walls of the cells facing the

courtyard, and of the corbel-headed doors between the cells and the lintel-headed door openings into the verandahs in front of them were taken in hand and finished. After these necessary repairs, the tops of the walls were laid with concrete, concealed beneath brick hearting in mud, to drain direct into the verandah, and where this was not possible drainage was provided through the cross walls of the cells. Two original old drains running parallel, west to east, across this site were discovered during the course of excavation. These have been repaired and are being used again for the purpose of draining the monastery. The verandah floor of this monastery has also been relaid with fresh concrete; and the brick paving of the courtyard with new bricks of the same size as the old where necessary.

In MONASTERY SITE NO. 6 which shows two different periods of occupation, the cell walls and enclosing walls had all been repaired and made watertight by the end of the previous year. During the year under report the damaged concrete floors of the cells and verandahs of the upper level structure exposed in the south half of this monastery, were relaid in concrete with a slope towards the earlier verandahs in the north half to facilitate drainage of rain water through a drain made in the north-east corner of the lower structure. The floors of all the cells in the north half of the Monastery, where the lower level has been exposed, were similarly relaid with concrete and new drains cut in their cross walls to facilitate drainage towards the same corner. The brick pavings of both the upper and lower courts were very badly shattered and pot-holed. These were taken up in their entirety and replaced with new pavings laid in the same way and with bricks of the same size as the old (Plate IX, *c*).

Two sets of long cooking *chūlhas,* one in the west and the other in the east half of the upper courtyard which had been let into the original paving and were very much damaged, have been thoroughly repaired, and drains have been provided to prevent accumulation of rain water therein. The subsidiary shrine in the middle of the upper level court, close to the parapet of the south verandah, and the low *chabūtra* in front of the main east sanctum on the lower court, which is decorated with a series of squat pilasters, have both been thoroughly repaired and made watertight with concrete concealed beneath rough hearting. A concrete retaining wall with a rough face was constructed along the cut edge of the brick paving of the upper court in order to retain it in position and to indicate the height of the *débris* which separated the upper court from the lower. The upper structure of the well in the north-west corner of the courtyard was repaired to match the old work, and the overhanging portion was supported on concrete lintels and rail iron cantilevers on the north, east and south—so that both later and earlier structures are now exposed to view. Suitable repairs were also carried out to the subsidiary shrine structure in the middle of the earlier courtyard, backing against the north verandah parapet, and the *débris* beneath the later structures of the same raked out and replaced by concrete. Some underpinning, however, still remains to be done to this structure.

The cell walls of the uppermost structure in MONASTERY NO. 7 and the enclosing walls along the north and, in part along the east, sides of the buildings

were built up and the tops of about half the cell walls made watertight in the previous year. During the year under review the south, west and the remainder of the east enclosing walls were built up approximately to the height of the cell walls attached to them, and the remaining half of the cell walls together with all the enclosing walls made watertight with a layer of concrete in the usual manner (Plate IX, *a*). The magnitude of the work involved in these repairs will be appreciated when it is stated that the enclosing walls of this Monastery measure 200 feet one way and 170 feet the other and range between 8 and 10 feet in thickness.

The main structure of the Monastery which was found in a dilapidated condition has been built up again on the old foundations in conformity with the evidences existing *in situ*.

BRICK MAKING. For the repairs referred to above about 80,000 bricks of the special large "Gupta" sizes, 15″×10″ and 12″×8″, were made and burnt on the site by the Archæological Superintendent at a cost averaging about Rs. 20 per thousand; and the equivalent of some 116 cubic feet of reinforced concrete lintels was also constructed at a cost of 14 annas per cubic foot.

RAJGIR.

At RAJGIR the work of special repairs provided in the original estimate of Rs. 4,853 (including agency charges) was carried to completion this year at a total cost of Rs. 4,846. The allotment for the current year amounted to Rs. 1,065 (exclusive of agency charges) and the expenditure to Rs. 1,059. The chief item of work done during the year under review consisted of replacing fallen stones over the walls and bastions flanking the south gate of the Fort wall of "New Rajgir," which is situated immediately opposite the Dak Bungalow, and over a small length of the zigzag wall at the foot of the Ratnagiri Hill (Plate IX, *d*). Besides, *débris* and jungle were removed from the immediate vicinity of these walls, and a short length of the coping of the barrier wall enclosing the shell inscription was also repaired.

ROHTAS.

Special repair works provided for in the two sanctioned estimates of Rs. 21,179 and Rs. 7,113 (including agency charges) respectively for less urgent and urgent repairs to the FORT and MONUMENTS at ROHTAS were brought to completion during the year under report. On the occasion of the Archæological Superintendent's visit however it was found that several other items of work were also more or less necessary and two supplementary estimates were therefore prepared by the Public Works Department and approved by the Archæological Superintendent. One of these estimates amounted to Rs. 2,111 and provided for the dismantling and reconstruction of three of the oriel balconies of the Palace; the other for Rs. 4,107, provided for a number of minor repairs at several of the other important monuments in the Fort. Thus concrete has been laid along

many of the principal walls in the palace to prevent rain water lodging near them or being absorbed in their foundations; *débris* and rubbish have been removed from the courtyards and their original concrete pavements exposed; new drains have been cut in several of the walls to facilitate easy flow of rain water from the courts; cracks and crevices have been filled in with cement; roofs and wall tops have been made watertight and stone *parnālas* have been provided on the roofs. And it must be said to the credit of the Executive Engineer that most of this work has been done out of the savings in the original estimates of Rs. 21,179 and Rs. 7,113.

The total expenditure on the conservation work in progress at Rohtasgarh during the year under report was Rs. 11,033 (including agency charges) of which the local Government generously contributed Rs. 2,561. The work is in progress and is expected to be completed next year.

SASSARAM.

A sum of Rs. 481 (excluding agency charges) was allotted during the year under review for numerous small but necessary repairs to the important SURI MONUMENTS at SASSARAM against a sanctioned estimate of Rs. 3,883. Out of this allotment a sum of Rs. 475 only was spent up to the end of March, 1930. The work is in progress. A lightning conductor was provided at the TOMB OF HASAN KHAN SURI, father of the Emperor Sher Shah Suri, at a cost of Rs. 159 (excluding agency charges) against an allotment of Rs. 162.

RAJMAHAL.

A sum of Rs. 1,960 against an allotment of Rs. 2,000 (exclusive of agency charges) was spent in RAJMAHAL on the special repair works provided for in the sanctioned estimate of Rs. 4,458 for the preservation of ancient monuments there. The principal items of work carried out comprised the breaking up and removing of the large masses of *débris* which were lying about in the ruined northern half of the prayer chamber of the JUMA MASJID at Hadaf; the spreading of *murum* on the floor of the whole of the prayer chamber; and the excavating of the tank in the centre of its courtyard besides some underpinning and filling in of cracks and crevices here and there. The chief item of work in the estimate is the construction of three substantial buttresses against the north wall of the central hall of the prayer chamber and this is expected to be taken in hand next year.

COLGONG.

A sum of Rs. 940 against an allotment of Rs. 943 (excluding agency charges) was expended on the construction of cement steps for providing easy access to the ROCK TEMPLE at COLGONG which is situated on the top of a hillock in the middle of the Ganges.

CENTRAL PROVINCES AND BERAR.

By Mr. M. H. Kuraishi.

BURHANPUR.

Structural repairs to the TOMB OF NADIR SHAH at BURHANPUR having been completed by the end of the previous year, the ground around it and the TOMB OF ADIL SHAH in the same compound was levelled and dressed between the graves and the projecting ruins; *débris* from the mosque to the west, and the *dalans* to the south of Nadir Shah's tomb was removed; and two mango and two *nim* trees were planted in the compound. Further, the modern opening in the north enclosure wall was built up and the original entrance gateway at the extreme west end of the enclosure cleared of *débris* and re-opened for use and provided with a wicket gate to prevent stray cattle from getting inside. This work was completed at a cost of Rs. 1,189 (exclusive of agency charges) against an allotment of Rs. 1,214. A sum of Rs. 1,145 (exclusive of agency charges) against an allotment of Rs. 1,191 was expended during the year under review on the TOMB of SHĀH SHUJĀ' also at Burhanpur. The principal measures of conservation carried out were the construction of a retaining wall in order to prevent the south-west corner of the compound wall being undermined by an extension of the neighbouring *nullah*, and the provision of an approach road over the *nullah* to the original entrance gateway in the south side which has been re-opened for use. The modern opening in the north wall has been built up. The work provided for in the estimate has now been completed.

DHOTRA.

The disintegrated outer facing of the stone masonry of the MAHADEO TEMPLE at DHOTRA in the Buldana District was coated, during the year, with paraffin paste in petrol in order to arrest further decay of the stone surfaces. The work was completed at an expenditure of Rs. 1,323 against a sanctioned Special Repair estimate of Rs. 1,370 exclusive of agency charges.

SINDKHED.

On the conservation of the MAHADEO TEMPLE at SINDKHED RAJA in the Buldana District, Berar, a sum of Rs. 1,684 was expended against a sanctioned Special Repair estimate of Rs. 1,693, excluding agency charges. The roof was reterraced with fresh lime concrete; the edge and missing cornice of the stone *chabūtra* around the temple and the greater part of the parapets of the temple walls were restored and the existing portion thereof rendered watertight. A couple of gaps in the dome of the sanctum were closed and teak-wood doors provided in the three openings on the north, east and south sides. This temple is built in Muhammadan style with domes and arches.

LONAR.

At LONAR in the Buldana, District the columnar porch projecting from the east wall of the square *kuṇḍ* was completely dismantled and rebuilt anew with

the old members re-used in their original positions; and the *ghāṭ* stairs, wherever they were sunk, were made good. The total cost of these operations was Rs. 1,208 against a sanctioned estimate of Rs. 2,213 excluding agency charges. The work is in progress.

ELLICHPUR.

The conservation work executed at ELLICHPUR comprised the watertightening of the roofs of the Dulha, Jiwanpura and Haripura gates of Nawāb Ismāīl Khān's city wall, and of the tops of the bastions and adjoining stone walls attached to these gates; the underpinning with similar masonry or filling in with concrete of the deeper gaps in the contiguous brick walls; the supporting of the lower portion of an overhanging stair at the east end and an arched opening over the west end of the Dulha gate on masonry piers; the reterracing of the floors, and watertightening of the broken ends of the overhanging semi-domes of the oriel balconies of the HAUZ KATORA building; the filling in of all cracks and crevices to stop leakage of rain water; and the removal of rubbish and jungle from all protected monuments and from their near vicinity. These works were successfully completed at an expenditure of Rs. 2,832 against a sanctioned special repair estimate of Rs. 2,837 excluding agency charges.

CHANDA FORT.

The Special Repair work in progress at the east end bastion of the BAGAR KHIRKI at CHANDA has been completed at a total cost of Rs. 1,045 against a sanctioned estimate of Rs. 1,700 (including agency charges). The expenditure during the year under review was Rs. 793. All the wider cracks in the bastion wall have been filled in with cement concrete, the masonry being further strengthened with bond-stones placed across the cracks at intervals of four to five feet; the damaged pavement on the top of the bastion has also been treated with hydraulic lime in concrete thus making the structure perfectly watertight. In the *Chor khirki* of the fort walls, the southern pier of the archway had been considerably damaged by the wheels of bullock carts taking a sudden turn near the Khirki. To prevent further injury upright fender stones have been provided at each of the eroded corners of the gate jamb at a cost of Rs. 87 (including agency charges) against a sanctioned estimate of the same amount.

BENGAL.

By Mr. K. N. Dikshit.

PAHARPUR.

The total amount spent on the conservation of monuments in Bengal during the year was Rs. 26,191 and the largest single work was the special repairs to the GREAT TEMPLE and MONASTERY at PAHARPUR which cost Rs. 5,500. In the main temple the dilapidated walls of the eastern and southern *maṇḍapa* and antechaamber were dismantled and rebuilt in cement mortar and rendered water-

tight. The walls of the circumambulating passage on the second floor outside the *maṇḍapas* were completely renovated and with the exception of a little portion of the verandah wall on the north-east and north-west, the entire temple is now in a structurally sound condition (Plate VIII, *c*, *d*). In the monastic quadrangle, the work of repairing the more ornate brick pedestals in the cells on the western, northern and eastern sides was also undertaken during the year.

GARUI.

Among other items of conservation the most important is the work at the temple at GARUI on which Rs. 1,094 were spent during the year. The temple is in the heart of the village about 5 miles from Asansol junction, and its main interest is that it is the only extant example in Bengal of a stone temple with a curved cornice roof of the peculiar Bengali style. The date of the temple is unknown, but obviously it cannot be older than the 17th century. The plinth of the temple which is 28 feet square was in a state of disrepair and attempts were made to restore it to its former state by uncovering the buried portion and restoring the missing slabs on a proper concrete bedding. The main work consisted of repairing the side walls and the cornice facing after carefully dismantling the portion out of plumb. In the main shrine which consists of a sanctum, 12′ 6″ by 5′ 5″, flanked by two small chambers, the hemispherical roof in the centre was cleared of jungle and the domical portion at the top repaired by replacing missing stones. The sand-stone used in the old building was apparently obtained from the quarry near by in the bed of a stream and material from the same source has also been utilized for the purpose of repairs.

TRIBENI.

At the MOSQUE of ẒAFAR KHĀN GHĀZĪ at TRIBENI, which is one of the earliest Muslim monuments of Bengal, special repairs were conducted at a cost of Rs. 1,860 during the year. The main work done was the strengthening and watertightening of the domes which had not so far been taken up owing to the fear that they might collapse if any such work were attempted. Happily, however, no such contingency occurred as the domes had been very carefully protected by strong centering at the soffit.

BAGERHAT.

At the SHATGUMBAZ MOSQUE at BAGERHAT in the Khulna District which is one of the most frequented and well preserved mosques in Bengal, the floor was repaired during the year by furnishing a new brick-on-edge flooring in place of the old one. A total of Rs. 2,996 was expended before the end of the financial year.

GAUR.

The GUMTI GATEWAY at GAUR which is a 15th Century structure belonging to the original inner palace enclosure and which was superseded by the Lukachuri gateway in the Mughal period has been converted into a small museum devoted

to the antiquities found at Gaur and in the neighbourhood. The total cost of the project was Rs. 1,029 which included the cost of pedestals, expanded metal windows and doorways, and the removal of the antiquities from the store at Malda. It will henceforth be possible for the visitors to study the moveable antiquities from Gaur in their natural surroundings.

VISHNUPUR.

At VISHNUPUR two more interesting monuments were added to those already preserved at this ancient capital. One of these is an attractive little stone CHARIOT 10 feet square at the base, which is at present lying neglected very close to the stone gateway at the Vishnupur Fort. The other is a temple called the PATPUR TEMPLE situated near the Krishnabandh tank. The temple is a well preserved and typical example of the Vishnupur style. It consists of a central shrine 8′ 6″ square, a verandah 4′ broad running all along the sides and small cells at the corners. The open platform on which the temple stands is at present heavily overgrown with trees and jungle. The necessary measures of conservation for these two monuments have been planned and will be shortly taken in hand.

ASSAM.

By Mr. K. N. Dikshit.

In the Province of Assam out of the total expenditure of Rs. 11,279, a sum of Rs. 3,213 was spent on special repairs. These included the conservation of the ruined GUPTA TEMPLE at DAH PARBATIYA. An antiquity of outstanding importance here is the beautiful door frame with figures of Gangā and Yamunā on the door jambs. Repairs executed at this temple consisted of levelling, dressing and fencing.

The SIVA TEMPLE at NIGRITING which is about 16 miles from Jorhat, the headquarters of the Sibsagar District, was in hand for conservation during the year and Rs. 764 were spent. The present temple perched on the top of a hillock is of the usual Ahom style, but there was undoubtedly an earlier temple slightly later in date than the Bamuni hill temples at Tezpur or about the 11-12th century A. D. The stones of the older temple have been arranged on the slope leading to the present temple. The latter is dedicated to Śiva and has subsidiary shrines dedicated to Vishṇu, Devi, Sūrya and Gaṇeśa. All these shrines except the last were repaired during the year, and the old hanging brick-work at the soffit of the domes was supported by modern timber scaffoldings. *Débris* has been removed from the site of the temple all around and the channel for carrying away the sacred ablution water extended to the compound wall. Patch repairs were also done to the spire of the temple where it meets the roof of the ante-chamber.

In the District of Sibsagar, the principal centre of conservation in Assam, the main works done during the year were repairs to the AHOM RĀJA'S PALACE at GARHGAON and to the DEVIDOLE and BISHNUDOLE TEMPLES at GAURISAGAR.

At the former, steps leading to the upper terraces were repaired and the parapets on the upper floors were renewed. A programme of special repairs is in hand at the three temples at Gaurisagar which have undergone considerable deterioration.

The main temple in this group is dedicated to the goddess (Devidole), just as the main temple at Sibsagar is dedicated to Siva and that at Jaysagar to Vishnu. The panels on the walls of these temples represent a bewildering variety of images of gods and goddesses, in which the new-found zeal of the Ahom princes of the eighteenth century, then fully converted to the Hindu faith, found expression. In the main temple of Gaurisagar most of the sculptured panels represent images of goddesses (Plate XXXVI, *d*), which are fast yielding to the destructive effect of the climate of Assam. Bats are a veritable nuisance at the main shrine of this temple and repeated attempts will be necessary to drive them out. The Bishnudole temple has huge cracks in the walls of the main shrine which are being treated by grouting cement with brick metal in the hearting and providing facing brickwork in cement with recessed pointing.

Four groups of monolithic monuments in the north Cachar hills, protected at the instance of Mr. J. P. Mills, I.C.S., Deputy Commissioner, Cachar, serve as a reminder of the variety of anthropological material in this province of the North-Eastern Frontier of the Indian Empire. The four groups are known as the Derabera, Khartong, Boloson and Kobak groups, respectively, of which the third contains as many as 400 stones of which over 100 are still intact. Some of these must be undoubtedly of great antiquity, as the accumulation of soil around them amounts to as much as 5 feet. They have not come into the hands of the Department too soon, as they have already suffered considerable damage from fire, wild animals and cattle and last but not least from the hands of aboriginal Christian converts, who have recently split up one of the finest monoliths to make a tombstone.

The last protected monuments on the Eastern Frontier tract are an inscribed stone pillar in the compound of the Political Officer which contains a record of a treaty between the Mishmis and the Ahom king, and some guns kept in the Political Officer's house.

MADRAS PRESIDENCY AND COORG.

By Mr. A. H. Longhurst.

A sum of Rs. 31,418 was allotted for conservation works in the Madras Presidency, out of which Rs. 28,689-12-0 was spent. Rs. 600 was provided for similar works in Coorg and Rs. 369-2-0 was utilised.

A sum of Rs. 4,351-3-0 was spent on Special Repairs to the following monuments :—Asoka's Rock Inscription at Jaugada, Ganjam Fort, Bhavanarayana Temple at Bapatla, Hill Fort at Gooty, Schwartz Church at Tanjore, Dutch Cemetery at Negapatam, Preston's Battery at Trichinopoly and Mahal at Gurramkonda. A large slab 6'×6' fully inscribed in Telugu-Kannada characters of about the 7th or 8th century A. D. which was

found lying half buried at the village called VELLIGALLU in the Madanapalle Taluk of the Chittoor District was removed to Gurramkonda Mahal for preservation. As it was found necessary to protect this slab from rain and sun, a shed with terrace roofing was constructed and it is now well protected. The inscription refers to the Vaidumba King Ganda Trinetra and belongs to not later than the eighth century.

A sum of Rs. 560 was spent on Special Repairs to the FORT at GANJAM added to the List of Ancient Monuments conserved by the Central Government in the year 1928. According to the Ganjam District Manual dated 1882, the fort was commenced in 1768 by Mr. Edward Cotsfort, the first Resident in Ganjam. Until 1815 Ganjam continued to be the headquarters of the district and a military station, but in that year it was visited by an epidemic of fever which almost depopulated the place and led to its total abandonment in favour of Berhampore. The picturesque ruins of the old fort which once contained some really fine buildings and the roofless barracks and old parade ground, are all that remain of this once important station of the Hon'ble East India Company. The fort faces the sea on the east side and commands the river on the south. At a short distance to the north situated on what appears to have been a pleasant *maidan*, now cultivated, is an interesting old cemetery enclosed by a brick and plaster compound wall with a small iron gate on the north side. It contains some interesting tombs and quaint monuments which are fully described in the "*List of Inscriptions on Tombs and Monuments in Madras*." Vol. II, pages 209-212.

Necessary repairs such as rebuilding the fallen portions of the ramparts and the side walls of the HILL FORT at GOOTY were executed during the year. This hill fortress is at a distance of nearly 3 miles on the South-East of Gooty Railway station. Rampart walls built of granite with occasional bastions encircle the cluster of 3 hills. The only entrance in the midst of the fortifications below. faces the North-East. There are several gateways one above the other, all of Hindu construction originally, but with ornamental plaster work in the Saracenic style subsequent to the Muhammadan possession of it. No accurate information is available about the date of construction, but it has to be inferred that it was in existence during 973 A. D. (*Epigraphia Indica*, Vol. V, page 180). It was Krishna Deva Raja of Vizianagar (1509-30) who improved the fortifications below. The Mahratta chiefs as well as Haidar and Tippu held it for a time until the British got possession of it. The fort is now in a good state of preservation.

Special Repairs amounting to Rs. 771 were carried to the SCHWARTZ CHURCH in TANJORE. This church was built by Schwartz in 1779 and is the property of S. P. G. General Munro assisted Schwartz to raise the money for the building and laid the foundation stone on March 10th, 1779. The Memorial tablet by the sculptor Flaxman R. A., representing Sarabhoji's visit is a fine work of art that any church might be proud of. His Excellency the Viceroy inspected the monument during the winter of 1929. The church is used for worship by the members of Anglican church (S. P. G.). Special Repairs amounting to Rs. 708 were also carried out to the fallen compound wall of the tombs of the OLD DUTCH CEMETERY

at NAGAPATAM. Besides the above-mentioned works, the usual annual repairs were carried out at HAMPI, the ruined capital of the Vizianagar dynasty, MAMALLAPURAM, popularly known as the "SEVEN PAGODAS" famous for its wonderful group of Pallava rock-cut monuments and the great FORTRESS of GINGEE which was formerly in the possession of the French and a large number of other protected monuments.

Residential quarters for the Archæological Overseer in charge of the Hampi Ruins were constructed during the year at a cost of Rs. 3,404-9-0.

BURMA.

By Mons. Charles Duroiselle.

During the year under report a sum of Rs. 41,714 including agency charges was expended on the conservation of ancient monuments in the Burma Circle. This sum was divided as follows:—

	Rs.
Special Repairs carried out by the Public Works Department . .	10,207
Annual Repair and Maintenance works carried out by the Public Works Department	25,505
Annual Repair and Maintenance works carried out by the Archæological Department	3,841
Works, *i.e.*, construction of civil buildings carried out by the Public Works Department	2,161

The special repairs executed by the Public Works Department consisted in (1) the continuation and completion of the conservation work at the LAWKANANDA PAGODA near THIYIPYITSAYA village, Pagan, at a cost of Rs. 387, (2) the *Payathon-zu* TEMPLE at MIN-NAN-THU village, Pagan. at a cost of Rs. 2,596, (3) providing an enclosure wall around the PAW-DAW-MU PAGODA at MYIN-PAGAN village, Pagan, at a cost of Rs. 338, (4) executing special repairs to buildings on the PALACE PLATFORM, MANDALAY, which cost Rs. 1,340, (5) rebuilding PYATTHAT No. 46 on the South Fort Wall at Mandalay at a cost of Rs. 2,995, and (6) in the execution of special repairs to the TOMB of KING BODAWPAYA at AMARAPURA, at a cost of Rs. 642. The total cost of these special repairs amounted to Rs. 10,207 inclusive of the agency charges.

PAGAN.

The special repairs to the LAWKANANDA PAGODA, whose stability, it will be recalled, had been endangered by its enclosure wall having been badly damaged by the abnormal rains and floods of November 1926, were begun in the year 1926-27. and accounts of the repairs that were carried out then and during the last two years have already appeared in the reports for those years. Owing to the paucity of funds, the estimate, which originally amounted to Rs. 8,426, had to be spread over four years. During the year under report, the unfinished

portion of the work in connection with the relaying of stone-pitching on the west or riverside of the Pagoda for protection against the action of the flood was taken up and completed. The safety of the building has now been ensured against the danger of annual floods, which, in that portion of the river, are very strong and often destructive.

The PAYA-THON-ZU, "THE THREE TEMPLES," at MIN-NAN-THU village, Pagan, is, on account of the frescoes it contains, one of the most interesting monuments in Burma. The frescoes belong to the Mahāyānist School of Buddhism, and have been discussed in my note on "The Arī of Burma and Tāntric Buddhism[1]." The monument itself is of a type seldom found in Burma. It consists of three small square temples built in a row running east-west on a raised platform and connected with each other by vaulted passages (Plate VI, *e*). Each temple contains a sanctum preceded by a porch and faces north. It was probably used also as a *vihāra*; for on the north side there are two chambers adjoining the vaulted passages, which were meant for the residence of monks; such cells are a common feature of some of the larger temples, for instance, the Gawdaw-palin. There is a pedestal in each sanctum, but the images have disappeared and their exact nature is not known. The "Three Temples" may be symbolical of the *Triratna* or Buddhist Triad, Buddha, Dhamma and Saṅgha, and accordingly the central throne might perhaps have been occupied by an image of the Buddha and the other two by representations of Dhamma and Saṅgha. But this is rather unlikely, for it is not uncommon to meet with three images of the Buddha occupying the same pedestal, or with the Buddha in the centre flanked by two of the Bodhisattvas. Again, all offerings made are invariably dedicated to the *Triratna*, and by the very fact that those three temples were built on a common platform with connecting passages forming as it were one building, there can be no doubt that they were built at the same time, which may be put down to about the 12th century A. D. and that the founder had in view some such triads as those referred to above to be housed in them. The repairs to the building consisted in making the roofs watertight and in strengthening the brickwork wherever it was insecure, the main object being to preserve the frescoes inside and to give the building, as it was found, a longer lease of life. Some of the stone flags with which the floor was paved were missing and they were replaced. A wall to protect the plinth was built on the road side. The platform in front of the building was levelled up and *débris* removed from it.

Another measure of conservation work at Pagan which may be classed as an "original work" was the replacement of the dilapidated wire fencing around the PAW-DAW-MU PAGODA at MYIN-PAGAN, by a brick enclosure wall on the model of those now existing. The main purpose of constructing a wire fencing around the building was to keep out the cattle from the sacred precincts, but with the large number of cattle that keep roaming about at night, the wire fencing was found to be practically useless. Moreover, the villagers, finding the wire unprotected at night, frequently used to remove it. A brick enclosure wall does away with these annoyances, and is more in keeping with the central monument.

[1] *A. S. R.*, 1915-16, pp. 79—93

MANDALAY.

The special repairs to the buildings on the PALACE PLATFORM at MANDALAY consisting in laying Pakhangyi stone flags in lime concrete around them and those that formed part of the original scheme for the construction of gardens on the Palace platform, have now been completed. During the year under report such works were carried out between the CHIEF QUEEN'S PALACE and the KING'S PRIVATE APARTMENTS, and around the latter and the Southern Throne Room and cost Rs. 1,340 inclusive of agency charges.

In the report for the year 1927-28, reference was made to the three pyatthats which had collapsed out of forty eight adorning the Fort Walls at Mandalay. Of those three pyatthats, one namely: PYATTHAT No. 46 on the South. Fort Wall was rebuilt during the year under report, and it is expected that pyatthat No. 44 also on the South Fort Wall, will be rebuilt during the year 1930-31. An estimate for the rebuilding of the remaining third pyatthat No. 7 on the West Fort Wall is under preparation.

AMARAPURA.

The TOMB of KING BODAWPAYA at AMARAPURA, which had suffered some damage from heavy rains, also underwent special repairs during the year under report. The work comprised repairs with Burmese brick in lime, to the 2nd and 3rd terraces of the pyatthat over the tomb, which had been badly damaged, renewal of ornamental plaster and repairs to the HMAN-KIN-TAING and the HTI over the building.

MISCELLANEOUS ANNUAL REPAIRS.

SAGAING, MINGUN, AVA, ETC.

The sum of Rs. 25,505 expended by the Public Works Department on annual repairs, etc., was devoted to petty repairs to and clearance of jungle from and around such of the protected monuments in the charge of the Archæological Department as were in need of such attention; to the maintenance of temporary work-charged establishments of durwans or caretakers for looking after the ancient monuments at PAGAN in the Myingyan District, at SAGAING, MINGUN and AVA in the Sagaing District, some of the ancient monuments at AMARAPURA in the Mandalay District and the PORTUGUESE CHURCH at SYRIAM in the Hanthawaddy District; and to the renewing of the sign boards at some of the monuments at PAGAN in the Myingyan District. Works of annual repair at Mandalay and Pagan, two principal centres of conservation in Burma are detailed below.

MANDALAY.

At MANDALAY the buildings on the PALACE PLATFORM and the PYATTHATS on the FORT WALLS received their due attention. The work on the Palace buildings consisted in repairing the corrugated iron roofs of some of the apartments; renewing those carvings that were old and decayed and repairing those

that were damaged; earth-oiling the carvings and roof ridges of all the buildings with red ochre; renewing the teak trellis-work, the venitian doors, the glass pane doors and the teak floors of some of the buildings; taking out the old Pakhangyi stone flags that were loose in the pavement of the Palace platform and refixing them with lime mortar; and cement pointing to Pakhangyi stone floor wherever necessary. The cost of the work amounted to Rs. 3,649, exclusive of agency charges.

The pyatthats on the Fort Walls are built entirely of wood, and consequently earth-oiling with red ochre is a yearly item of work absolutely necessary for their preservation; and this was, as usual, undertaken during the year under report to all the existing pyatthats, after the necessary repairs to, or renewal of, the carvings and double teak roofs of some of the pyatthats, that were in need of repair or renewal, had been carried out. The grass and plants growing around the pyatthats were cleared, the ground levelled and drainage provided. The work cost Rs. 3,977.

PAGAN.

At PAGAN the LAWKANANDA, TI-LO-MIN-LO, MINGALA-ZEDI, DHAMMAYAZIKA, SULAMANI, KONDAW-GYI and THETKYAMUNI PAGODAS absorbed the major portion of the allotment of Rs. 4,500 made for the maintenance of the pagodas there during the year under report. Of this sum Rs. 992 were spent at the LAWKANANDA on the construction of a small bund with stone pitching over the river side, up stream, for protection against erosion and the renewal of the sign board at this pagoda; Rs. 342 on petty repairs to walls and roofs of TI-LO-MIN-LO; Rs. 378 on the removal of trees from and the resetting of loose bricks at the MINGALAZEDI; Rs. 439 at the DHAMMAYAZIKA on filling up cracks in some of the arches, resetting loose bricks in several places, edging off the old plaster with a thin fillet of lime and removing the vegetation growing on its superstructure; Rs. 422 at the SULAMANI in resetting loose bricks, grouting cracks and edging old plaster; and Rs. 334 and 772, respectively, on the Kon-daw-gyi and the Thetkyamuni which were in a bad state of preservation, in executing necessary repairs to their roofs and walls and in grouting cracks and making the roofs waterproof. The plaster that remained was edged off with a thin fillet of lime and loose bricks were reset. The walls of the THETKYAMUNI are decorated with frescoes belonging to the 12th-13th century A. D.

The bulk of the sum of Rs. 3,841 allotted to the Archæological Superintendent for execution of works departmentally, was spent on the maintenance of temporary work-charged establishments of durwans to look after the ancient monuments and antiquities at HMAWZA in the Prome District, the PALACE BUILDINGS at MANDALAY in the Mandalay District and the TAUNGTHAMAN KYAUKTAWGYI Pagoda and the inscription shed at AMARAPURA in the Mandalay District.

Quarters including cook-houses were constructed for the durwans looking after the ancient monuments at Sagaing and Mingun. Those for the Durwan at Ava could not be built as the site required for the purpose could not be acquired in time.

RAJPUTANA AND CENTRAL INDIA.

By Mr. H. H. Khan.

During the cold weather of the year 1929-30 Mr. Hargreaves, Officiating Director General of Archæology in India, inspected some of the important monuments in Udaipur, Bhopal and Datia States and in Ajmer and discussed various problems relating to their conservation with the State authorities.

UDAIPUR.

The JAYA STAMBHA at CHITORGARH was in a perilous condition, for although Sir John Marshall had recommended measures for its preservation, no repairs had been undertaken. As a result of Mr. Hargreaves' visit during the year under report, the monument was examined in detail by Mr. J. A. Page, Deputy Director General of Archæology, and two expert engineers and it is now hoped that the Darbar will take early steps to put the monument in order. Other monuments in the Udaipur State require attention. These are the temples of SAS-BAHU and Eklingji at NAGDA and JAG MANDIR, where Prince Khurram, known as Shah Jahan, the Mughal Emperor, before his coronation, was accommodated as a guest of the State. The principal residential chamber in this palace is circular with a diameter of about 25 feet and is built in Mughal style.

BHOPAL.

In the BHOPAL STATE the BUDDHIST STUPAS and other MONUMENTS at SANCHI received the usual attention from the Darbar. These operations included special repairs to the NAGI TEMPLE, of which the walls threatened to collapse. Another important monument in the Bhopal State is the FORT of RAISEN, which was freed from jungle and *débris* and made accessible to visitors. Extensive repairs were also carried out to the ALAMGIRI MASJID and its courtyard and these reflect much credit upon the officers of the Public Works Department of the State.

DATIA.

The ancient PALACE at DATIA was in a very neglected condition and had probably never received any attention since it fell into disuse. The Darbar has now decided to execute necessary repairs and the Government of India have agreed to contribute half the cost of the operations. This monument is a striking example of the ancient palace architecture. An estimate amounting to about Rs. 20,000 was framed for the conservation of this monument many years ago. This was found inadequate and a revised estimate based upon a conservation note prepared by Mr. B. L. Dhama has been framed. The conservation work will be taken in hand next year. On the occasion of Mr. Hargreaves' visit a series of photographs showing all the important features of the monument were taken and two of them are reproduced in Plates V, *c* and VI, *a*. Two other monuments of archæological interest were visited in the Datia State during the year under report. One of these is a small building resembling the above-mentioned palace in general outline. It is related to have been built with part of the material prepared for the plarger alace. It has two storeys and is about 125 feet square

on plan. It consists of an open court in the middle and is strengthened with four ribbed-domed towers at the corners, three of which have unfortunately perished. The whole structure is in a very dilapidated condition and is being used for inappropriate purposes. The other monument is a large step well situated at SIROL, about 5 miles from Datia. It appears to date from the same period as the old palace at Datia and recalls the general plan and design of the famous step wells of Ahmedabad in Gujarat. The well was enveloped with jungle; this has been cleared away but structural repairs are urgently needed.

CHHATARPUR.

In the CHHATARPUR STATE the work of repairs to the group of temples at DONI had been completed in the preceding year with the help of a grant-in-aid from the Government of India. This year the *chabutras* have been put in order and the site tidied up. The conservation of one of the BHIMKUND TEMPLES at MAU and of the CHATURBHUJA TEMPLE at CHHATARPUR has also been taken in hand and images and other carved stones, which were lying scattered in the vicinity, have been collected.

DHAR.

In Dhar, the Government of India's grant-in-aid of Rs. 5,000 could be made available only towards the end of the year, with the result that considerable difficulty was experienced in bringing together skilled labourers for the execution of the work. The repairs carried out to these monuments during the last twenty years with funds provided partly by the Government of India and partly by the Dhar State have restored this "City of Joy" (Shadiabad, as it was called in ancient times) to something like its original state. One important monument at Mandu, namely, the one locally known as Gada Shah's shop had received little attention. It is one of the largest and loftiest structures at Mandu and the purpose for which it was constructed has been the subject of much speculation. A start was made during the year under report and *débris* removed from the three existing bays on the east side. It now transpires that this building was probably the general Hall of Audience of the kings of Mandu. Other features of this monument that have been brought to light are a vaulted underground water channel furnished with fountains and water regulators and a secret underground passage, wide enough to allow a man to pass through from the Zenana apartments to the Champa Baoli. For the last two years a special annual grant-in-aid of Rs. 2,000 has been sanctioned by the Government of India for the preparation of accurate measured drawings of the more important monuments of Mandu. During the year under report a sum of Rs. 600 was granted by Government for this purpose.

AJMER.

At AJMER, a sum of Rs. 2,709 was spent on repairs to the marble *baradaris* of SHAH JAHAN on the ANASAGAR BUND. These *baradaris* have developed several ominous cracks and dated 'tell-tales' have been fixed across them to

watch further movement. Works of special repair were also carried out at TARAGARH GATE and the SAHELI BAZAR in DAULAT BAGH. These cost Rs. 1,663 and Rs. 657, respectively. At the former monument the roof was made water-tight and one of the vaulted ceilings repaired. The other building was freed from jungle and *débris*. At the instance of the Commissioner of Ajmer, the HATHOON FORT, a small fortified structure situated on a hilly track about 15 miles from Beawar, which once belonged to the Mears of Rajputana, was also inspected. It has no architectural interest and it is not proposed to bring it on the List of Central Protected Monuments.

SAILANA.

Some petty repairs were carried out to the TEMPLE of MAHADEO at the village of BILPANK by the SAILANA DARBAR and by the KOTAH DARBAR to the CENOTAPHS of the MAHARAOS of KOTAH.

SECTION II.—EXPLORATION AND RESEARCH.

EXCAVATIONS AT TAXILA.

By Sir John Marshall.

With the progress of excavations in SIRKAP it has become more and more evident that the destruction of the Parthian city on this site was attended by some sudden and dire calamity in which many of the citizens must have been killed or driven permanently from their homes. On no other hypothesis can we account for the presence of so many domestic utensils and other small objects in the houses, still less for the numerous hoards of jewellery and other valuables that have been found buried under the floors in this particular stratum.

That this calamity befell Taxila at the hands of the invading Kushāns, there can be no reasonable doubt; and that it happended shortly before 64 A.D. seems highly probable. The reasons for inferring this date are as follows. Along with two of the hoards of jewellery which were buried when the city was sacked were certain silver coins of two rulers named Satavastra and Sapedana with the bust of their overlord Pacores on the obverse. Now, Pacores was a successor of the Parthian King of Kings Gondophares, who, according to the testimony of the Takht-i-Bahi inscription was still ruling in the year 103=45-46 A. D.; and, inasmuch as some of the coins of Sapedana and Satavastra are in a worn condition, we can hardly allow less than 14 years for the conclusion of the reign of Gondophares, the accession of Pacores and the issue and usage of these coins of Satavastra and Sapedanes. Indeed, 14 years seem to me all too short a time for these happenings. On the other hand, an inscription from Panjtar on the Indus indicates that the Kushāns were already in possession of that District by the year 122 and it is difficult therefore to postpone the Kushān conquest to a later date than this year, which according to the most reasonable scheme of chronology corresponds with 64 A. D. Judging by these data, therefore, it would seem that the sack of Taxila must have taken place between about 60 and 64 A. D. This date, however, is not free from difficulties and I am far from regarding it as certain. In the first place the head of the Parthian King Pacores, which appears on the coins of Sapedana is distinguished by a peculiar form of headdress, which on coins of Parthia itself does not make its appearance until the close of the 1st century A. D. It may be, of course, that Pacores himself was a pioneer in this fashion, which was subsequently adopted by the Parthian Kings in Iran, but the point is one that should not be overlooked. Another difficulty is presented by certain coins bearing on the obverse the bust and name of the last Greek King Hermaios, and on the reverse the name and titles of the first Kushān King, Kujūla Kadphises. Coins of these two rulers have been found in great abundance in Sirkap, many of Hermaios alone, many of Kadphises alone, and many of Hermaios with Kadphises. In the early days

of my excavations, when I was working on the uppermost strata of this site *numbers of* these coins were found in positions indicating that they were still in currency after the time of Gondophares. From my more recent diggings, however, which have gone deeper, it is clear that they must also have been current in the early half of the 1st century B. C., and they are found in such large numbers that it is impossible to believe that they could have resulted from mere commercial intercourse. At first sight the abundance of these coins would seem to point to the conquest of Taxila by Kujūla Kadphises himself—perhaps with the help of Hermaios—in the earlier half of the 1st century A. D. *i.e.*. possibly between the reigns of Azes and Gondophares. But in my view there is another and more likely explanation. It is this. We learn from the Chinese annals that Kujūla Kadphises (K'iu-tsiu-k'io) possessed himself of Kābul (Kao-fu), and this statement is corroborated by the vast numbers of his coins struck *in that district*. That this annexation of the Kābul Valley took place fairly early in Kujūla Kadphises' career, is shown by the fact that on the earliest coins which he struck there (copied from issues of Hermaios), he styled himself a *yavuga* or chieftain, not a King of Kings, as he afterwards did. In the light of what Fan-Ye says in the *Hou Han-shu*, we may surmise that this annexation took place shortly after 25 A. D., when Kujūla Kadphises was probably about 50 years of age, and that it was after this that he proceeded to occupy Pu-ta and Kipin and to assume the more important title of *Mahārāja Rājadirāja*. A few years later the Parthians of Taxila, whose territories according to the later Han annals had been invaded by Kadphises, retaliated by themselves occupying the Kābul Valley, and as a result of this accession to their territories large numbers of the Kābul coins of Hermaios or of Kadphises and Hermaios found their way to Taxila during the Parthian domination there. This at any rate appears to me the most adequate explanation of the presence of these coins in Sirkap. The mistake, as I believe, that has hitherto been made, has been to assume that it was the Parthians who made an end of the Greek power in Kābul* and the Kushāns who in their turn drove out the Parthians. The fact seems to be that the Kābul Valley was an important bone of contention between the Parthians and Kushāns, and we can well believe that it changed hands more than once before the final eclipse of the Parthian power.

Whether it was Kujūla or his successor, W'ima Kadphises who conquered Taxila is not established; probably it was the latter. The *Hou Han-shu* expressly states that it was W'ima Kadphises (Yen-Kao-Chen) who conquered T'ien-chu, and by T'ien-chu there can be little doubt that the North-West of India, including Taxila, is meant. Along with some of the coins of Sapedana alluded to above, buried when the city was sacked by the Kushāns, were three small silver coins with a head of a Kushān King on the obverse and a Nike with the legend *Maharājasa rajatirājasa Khushanasa Ya[vuga]sa* on the reverse. The king wears the conical headdress characteristic of W'ima Kadphises and it was with this king that I identified him when I first published

*See Konow. *C. I. I.*, Vol. II, pt. i, p. LXIII; Thomas. *J. R. A. S.*, 1906, pp. 193 *f*; Rapson. *C. H. I.* pp. 561 *f*.

these coins.* This identification of mine was endorsed by Professor Rapson in the *Cambridge History of India* (p. 581), but in the *Corpus Inscriptionum Indicarum*, Vol. II, Part I, Professor Konow infers from the use of the term *yavuga* that it is Kujūla not W'ima Kadphises who is portrayed. If Professor Konow is right, then these coins of Kujūla Kadphises merely fall into line with the hundreds of other issues of the same monarch which were current at Taxila under the Parthians. On the other hand, if these coins are issues of W'ima Kadphises, then they go far to confirm the Chinese authorities in attributing to him the conquest of the Panjāb. The point is not an unimportant one, because if W'ima Kadphises conquered Taxila between 60 and 64 A. D. and if Kanishka was his immediate successor, the latter may well have come to the throne by 78 A. D., whereas, if Kujūla Kadphises was the conqueror of Taxila there would obviously be more reason for assigning Kanishka to a substantially later date. So far, however, as this particular problem is concerned no real help is to be got from the Sirkap site. The evidence from here proves only that Kanishka was not reigning up to the time when the Parthian city was destroyed. A few of his coins along with a few of other rulers—Kushān, Little Yue-chi, Kashmiri and even Muhammadan—have been found in the superficial *débris* and it is obvious that there must have been some dwellers on the site long after the destruction of the Parthian city, but there is nothing to help us in determining the actual date of these several rulers.

With the new light thus shed on this period of Taxila's history, the many precious hoards of jewellery and the multitude of other objects found in the buildings of the second city acquire an added significance and value. As now apprehended, they constitute one large and homogeneous collection representative of Parthian culture in India in the middle of the 1st century A. D. and they give us a hardly less instructive picture of life on the far Eastern outskirts of the Parthian Empire than the remains at Dura-Europos do on its Western. Parthian culture in Syria, with its Syro-Hellenistic colouring, is necessarily very different from Parthian culture in the Panjāb. Yet it is surprising how much there is in common between the two, and, when we come to know more of the Parthian Empire in general, there can be little doubt but that we shall find that it possessed a far more distinctive and homogeneous culture than has hitherto been suspected. For the present, our knowledge is singularly little. Roman and Armenian writers, who are our chief sources of information concern themselves almost exclusively with dynastic and military affairs and tell us next to nothing about other and more interesting aspects of the country and its people—about their manners and customs, their social condition, their public and domestic economy, their political organization, their religious and moral ideas. Indeed, the picture of the Parthians drawn from these writers is of an almost half barbarian people, chiefly renowned for their skill as horsemen or with the bow. That the picture is very defective and one-sided cannot be questioned. The Parthians were not only fine warriors, but an energetic, progressive and highly civilized nation. Iranian by race and speaking an

* *A. S. R.*, 1912-13, p. 41.

Iranian tongue, they had once formed an integral part of the Empire of the Medes and Persians and from this empire as well as from the succeeding empires of Alexander and Seleucus they inherited much of the culture and refinement of both Greece and Persia. On their coinage, the Arsacids styled themselves "Philhellenes" and this was no empty boast, for Greek seems to have been used generally as their official language just as Aramaic had been under the Achaemenids, and every fresh excavation shows how much they were under the influence of Hellenistic art and Hellenistic ideas in general. Let it be remembered, too, that the Parthians held the carrying trade between the Near and Middle East, and imported quantities of manufactures and *objets d'art* from the Mediterranean coasts to India and *vice versa.* Much of this trade went by way of Syria and the Euphrates to Charax at the head of the Persian Gulf and so by sea to the Indian ports but not a little must have gone across Persia itself either to Seistān and Sind or to Bactria, Gandhāra and the Panjāb. So far as the north-west of India is concerned, it has commonly been assumed that the strong Greek influence manifest in many of its monuments and antiquities during the first two centuries of the Christian Era is attributable in the main to the Greek principalities which the Bactrian conquerors established here in the 2nd century B. C. Now, however, there is abundant evidence to show that much of this influence was directly due to the Parthians, who not only kept alive the traditional Hellenism of the Seleucids in Mesopotamia and Persia but by further conquests, trade, and commerce did much to spread it over the north-west of India. Nor was the important part they played in this matter confined to the relatively short period when Parthian princes were actually ruling over those countries. The Śakas, who immediately preceded them in the north-west, were also of Iranian blood and prior to their invasion of India had formed an integral part of the Parthian Empire, where the process of hellenization begun during their long sojourn in Bactria was continued. And even after the Parthians had been supplanted by the Kushāns in the North-West, their influence in that area must have been a potent one, since they were still the intermediaries, in control of the great caravan routes, between the East and West, and whatever the Kushāns had of Graeco-Roman ideas or Graeco-Roman culture must have come to them by way of Parthia.*

After what has been said above, the importance of exploring the Parthian city in Sirkap need hardly be stressed. It is the only known site of its kind in India and unique for the light it throws not only on Parthian culture but on the evolution of the important school of Indo-Hellenistic Art which subsequenlty reached its zenith under the Kushāns. It is earnestly to be hoped, therefore, that work will be resumed here by my successors, whenever funds again permit. The structural remains, unfortunately, are for the most part in so dilapidated a state that, notwithstanding all the interesting information they have furnished as to town and house planning, they would hardly justify further excavation for their own sake. The main objective, however, of future digging would be

* The Red Sea route for ocean-borne commerce was not opened up by the Romans until the latter part of the 1st Century A. D. and even after that could scarcely have affected the Kushāns.

not so much the buildings themselves as the jewellery, domestic utensils and many other objects left in them by the Parthians, and there is no doubt that these will continue to repay, and more than repay, the cost of excavation.

It was mainly, let me say, in the hope of finding such valuables, though partly also because I wished to complete the plan of this particular building that I resumed during the past season the excavation of Block D′. This is one of the buildings which were largely rebuilt in diaper masonry during the Parthian period and experience had tought me that such buildings offer the best chances of finding buried treasure. My hopes as to this were not disappointed. Beneath the floor of a small chamber in square 62·173′ were found two hoards which, though close to one other, had evidently been buried separately, one being contained in an earthen pot (Ht. $6\frac{3}{8}''$) and deposited at a depth of about 1′ 8″ below the floor level (8′ 8″ below the surface); the other lying in the earth rather more than a foot lower down and closer to the foundations of the western wall. Of these two deposits, the upper one (No. 1241) comprised the following objects:—

(1) Sk. 1241-1. Eros and Psychè in gold repoussé, standing side by side, with arms outstretched, caressing one another. The relief is backed with flat gold sheeting soldered at the edges, to the back of which three small rings for attachment are affixed. In the base are two small holes, one larger than the other, through which the lac core was inserted. In earlier Greek representations of this subject, both Eros and Psychè are provided with wings; here they are wingless, but in spite of this difference there can be no doubt as to their identity. For Eros and Psychè figures on a bronze hydria in the British Museum (No. 313) *Cf.* Wolters in *Arch. Zeit.* 1884, Pl. 1, pp. 1, ff., and Furtwaengler, *Coll. Sabouroff,* 11, Pl. 135. Ht. 1 13/16″ Plate XIX, 2.

(2) Sk. 1241-2. A pair of gold crescent and pendant ear-rings enriched with rosettes, clustered drops and granulation. The clasp of the crescent consists of two miniature crescents ornamented with a cinquefoil rosette at the top, a female bust on a lotus background in the centre, and another circular boss at the bottom. The pendants are composed of rings decorated on the outside with triple rows of beads and granules with bud-like pendants hanging from them, their surface finely granulated and ending in terminals of small globes and granules. Similar ear-rings have been found previously in Sirkap, *cf. A. S. R.*, 1912-13, p. 26 and Plate XXI, *b*, and 1924-25, Plate XI, 9 and 10, etc. Length $4\frac{7}{8}''$ Plate XVIII, 1 and 3.

(3) Sk. 1241-3. Three flower-shaped pendants of gold. Each is composed of six petals, backed by granulated ribbings and six smaller obcordate petals at their base, once encrusted with paste or Jewels. Attached to the tips of the larger leaves is a ring with granulated edge, from which six quadruple plaited chains are suspended with bells at their ends. *Cf. A. S. R.*, 1912-13, Plate XXI, *b*, 4. Ht. $2\frac{5}{8}''$ and $2\frac{3}{4}''$ Plate XVIII, 7.

(4) Sk. 1241-4. Pair of bangles of beaten gold on a core of lac (?). The ends were finished with separate discs of beaten gold which are now missing. *Cf. A. S. R.*, 1912-13, Plate XXI, *a*, 1 to 4. Diam. $3\frac{5}{8}''$ and $3\frac{1}{4}''$.

(5) Sk. 1241-5. Pair of bracelets of sheet gold with hinged clasps. The body of the bracelet is adorned with a double S repeat fretted from the metal, in a cable border. On the clasp is a foliate design in openwork cloisons of white shell centred with an oval medallion, from which the stone has disappeared. Diam. 1 13/16″, Plate XVIII, 4.

(6) Sk. 1241-6. Four square *svastikas* of gold repoussé, on a core of lac. In centre of each is a diamond-shaped depression, and at the four corners a heart-shaped one. At the back of each are four copper rings imbedded in the lac for attachment. $2\frac{1}{8}$″ square by 3/16″ thick.

(7) Sk. 1241-7. Gold necklace of 43 pieces, *viz.*, 21 larger pieces, two terminals and 20 spacing beads. The necklace was strung on two threads or wires. one passing through the middle of each of the larger pieces, the other through the head and the alternate spacing beads between. The two terminals are divided into cloisons of a dark grey opaque stone and white shell inside a beaded border. Of the larger pieces, half are centred with oval medallions of crystal cut *en cabochon* in a beaded border enclosed by two fishes facing one another with minute circlets of inlaid white shell between their heads and tails. Above is a finely granulated bead, and below, three plaited chains ending in circular discs. The other half, disposed alternately with the above, have similar chains below and plain beads above, but their centres are relieved with comma, diamond, triangular and heart-shaped cloisons inlaid with shell. The spacing beads are of the openwork "basket" type, inlaid with white shell. The length of each pendant is $1\frac{7}{8}$″, Plate, XIX, 16.

(8) Sk. 1241-8. Gold necklace or girdle (*mekhalā*) of 130 doubly flexured beads. The beads are of thin hollow gold, made in two pieces and pierced with two transverse holes for threading. Width $\frac{5}{8}$″. *Cf. A. S. R.*, 1902-3, p. 158 and Plate XXVIII, *b*, 3. Plate XVIII, 9.

(9) Sk. 1241-9. 132 hollow gold beads, round and graduated from 3/16″ to $\frac{1}{4}$″ diameter. *Cf. A. S. R.*, 1912-13, Plate XXII, *b*.

(10) Sk. 1241-11. Girdle (*mekhalā*) of 494 pieces of step battlement pattern interlocking with one another. The pieces are hollow, made in two pieces and threaded with two transverse strings. The hole is 12 feet in length. Width of each piece 5/16″. Plate XVIII, 8.

(11) Sk. 1241-12. Mother of pearl necklace in 33 pieces, with two pairs of holes for threading. The shells are pierced. Diam. $\frac{1}{4}$″ to $\frac{1}{2}$″.

(12) Sk. 1241-13. Eleven gold bangles of solid wire, with twisted ends, allowing of the bangle being expanded or contracted. *Cf. A. S. R.*, 1919-20. SK. 933/2. Diam. $1\frac{1}{2}$″ to $2\frac{3}{4}$″.

(13) Sk. 1241-14. Two pairs of hollow, club-shaped gold pendants. Length $\frac{7}{8}$″ to $1\frac{1}{8}$″. *Cf. A. S. R.*, 1912-13.

(14) Sk. 1241-15. Pair of gold ear-rings of solid wire, with twisted ends. Diam. $\frac{3}{4}$″. *Cf. A. S. R.*, 1912-13, Plate XXII, *a*, 3.

(15) Sk. 1241-16. Gold hoop finger-ring with flat oval bezel. The inlaid stone is lapis-lazuli engraved with a standing figure of Herakles (?) with a club in left hand and an illegible Kharoshthī inscription on right. Diam. $\frac{7}{8}$″. Plate XVII, 1.

(16) Sk. 1241-17. Plain solid finger-ring of gold, with flattened oval bezel. Diam. $\frac{7}{8}''$. Plate XIX, 1.

(17) Sk. 1241-18. Hoop finger-ring of gold with beaded edges. In place of the usual oval bezel is a pair of almond-shaped projections, and to either side of them minute figures suggestive of tortoises and scorpions' heads with *svastikas* (much worn) behind. Diam. $\frac{7}{8}''$. Plate XIX, 9.

(18) Sk. 1241-19. Hoop finger ring of ribbed gold sheet with oval-shaped projecting bezel which is incrusted with crystal *en cabochon* edged with gold beading. On either side, heart-shaped cloison design from which the stone or paste is missing. Diam. $\frac{5}{8}''$. Plate XIX, 3.

(19) Sk. 1241-20. Hair pin (?) of gold with flat "wheel" head decorated on both sides with cinquefoil rosette inlaid with white shell and encircled by double beading. Length $4\frac{3}{8}''$.

(20) Sk. 1241-21. A pair of gold pendants adorned with beaded crescent and circlets with 5 tiny discs suspended by wires beneath. Ht. 1″. Plate XIX, 10 and 11.

(21) Sk. 1241-22, *a-c*. Three rosettes of gold with circular beaded centre and 5 obcordate petals inlaid with green paste. Diam. $\frac{1}{2}''$ to 7/16″. Plate XIX, 15.

(22) Sk. 1241-22, *d*. Ditto but with petals inlaid with white shell. Plate XIX, 8.

(23) Sk. 1241-22, *e*. Ditto, but with 6 plain petals from which the paste has disappeared.

(24) Sk. 1241-23. Two pairs of gold ear-rings bound with wire at ends. Diam. $\frac{5}{8}''$ to 7/16″. *Cf. A. S. R.*, 1912-13, Plate XXII, *a*.

(25) Sk. 1241-23, *c*. Ditto, without wire.

(26) Sk. 1241-24. Three openwork "basket" beads of gold, very minute. Diam. $\frac{1}{8}''$. Plate XIX, 5.

(27) Sk. 1241-25. Almond-shaped gold ornament for attachment, beaded and originally inlaid with paste, which has disappeared. Length 9/16″. Plate XIX, 6.

(28) Sk. 1241-26. Three small lumps of gold weighing 123 grains.

(29) Sk. 1241-27. Rectangular thin gold sheet $2\frac{3}{8}'' \times \frac{1}{2}''$ and four other tiny pieces. Length $\frac{1}{4}''$ to $\frac{3}{8}''$.

(30) Sk. 1241-28. Ornament of copper gilt in form of tortoise, its body incrusted with oval crystal *en cabochon* and head with smaller circular crystal; small ring for suspension at tail and four rings once inlaid with blue paste for legs. Head and legs made in separate circlets and soldered on with thin slips of metal. Length $1\frac{1}{4}''$.

(31) Sk. 1241-29. Fragment of a crescent-shaped piece of crystal. Length $\frac{7}{8}''$.

(32) Sk. 1241-30. Bowl-shaped silver bell without tongue or handle. Diam. 1″.

(33) Sk. 1241-31. Globular pendant of gold with ring handle for suspension. Diam. $\frac{1}{2}''$.

(34) Sk. 1241-32. "Shield"-shaped ornament of gold repoussé provided with two pairs of holes for threading. Length ⅜". Plate XIX, 13.

(35) Sk. 1241-33. 19 pieces of tubular beads on core of lac (?). Length ⅛" to 9/16".

(36) Sk. 1241-34. 2 silver pins with square heads (length 3"), one silver bell in pieces, and other silver fragments.

(37) Sk. 1241-35. Anklet of solid silver, with ends terminating in cubes. Diam. 4⅜".

(38) Sk. 1241-36. Reddish brown glass bead in form of fish pierced lengthwise. Length 1".

(39) Sk. 1241-37. One chalcedony, one shell, and three glass beads. Diam. ⅛" to ¼".

(40) Sk. 1241-38. Four doubly flexured shell beads with two transverse holes for threading. Length ⅝" to ¾".

(41) Sk. 1241-39. One silver coin of Sapedana. *Obv.*, Bust of bearded king to l. diademed. In left field, ☿; Gr. legend,... IHNAB. *Rev.*, Nike standing l. holding wreath and palm. In r. field, Kh. *bhu* and legend.............*jasa tratarasa dramiasa.* Plate XVII, 4. *Cf. A. S. R.*, 1912-13, page 50.

(42) Sk. 1241-40. 11 silver coins. *Obv.* King on horse back to l. in beaded border. *Rev.* Deity standing front in beaded border holding thunderbolt (?) in r. hand. In l. field [symbol], and in r. field Kh. *tha.* Plate XVII, 2.

The other deposit in the same chamber (Sk. 1362) comprised the following objects :—

(43) Sk. 1362-1. Hollow gold torque (*hansuli*) of beaten sheet gold on a core of lac. It is composed of two semi-circles united at the narrow ends by a socket and tenon hinge and provided with a push fastener of copper at the thicker ends, very much like the modern patent "push" fastener. Diam. 5¾".

(44) Sk. 1362-2. Gold hoop finger-ring of thin metal, on core of lac (?). The bezel is oval and the gem missing. Diam. 13/16". *Cf. A. S. R.*, 1912-13, Plate XXI, *b*, 9.

(45) Sk. 1362-3. Gold ear-ring, bound with wire at ends. Diam. ½". *Cf. A. S. R.*, 1912-13, Plate XXII, *a*.

(46) Sk. 1362-4. Silver saucer (Diam. 6⅛") with flat bottom and concave edge. Concentric, countersunk circles on base, and between them Kh. inscription :—*Aśpavarmasa Strategasa Sa. 10.1. Dra. 2. O. 2.*—"During the generalship of Aśpavarma. Value, 11 staters, 2 drachmas, and 2 obols", or perhaps "Belonging to Aśpavarma the general, etc.".

(47) Sk. 1362-5. Circular saucer or dish of silver. The bottom is flat, the edges curved outwards. It bears a single Kharoshṭhī letter [symbol] underneath. Diam. 5⅞". *Cf. A. S. R.*, 1926-27, No. 4081/25.

(48) Sk. 1362-6. A pair of damaged and twisted anklets of silver. Length 4½".

That the two deposits described above were of the same age, there can be virtually no doubt; and the presence in them of a coin of Sapedana together with 11 other coins either of the same ruler or of another approximately contem-

porary with him corroborates the view expressed above, that these and the other treasures were placed in the ground when Taxila was sacked by the Kushāns. Coins of Sapedana, it may be remembered, were first found in 1912-13 in a jar in Block E on the eastern side of the High Street, which was doubtless laid in ruins on the same occasion,* and I then pointed out that every feature of these coins of Sapedana showed him to have been a successor of Gondophares. It is also of no small interest to find among these valuables a silver plate bearing the name of Aśpavarma the Strategos or Military Commander. Aśpavarma was an Indian, son of Indravarma and uncle apparently of the ruler Sasan or Sasas, whose name appears on coins of Gondophares as well as of Pacores. Aśpavarma figures as Strategos on coins of Azes as well as of Gondophares and he may even have been contemporary with Sapedana whose coins show a close affinity with those of Gondophares.† In connection with these rulers it may be recalled that among the many valuables buried at the sack of Taxila was a silver *askos* vase dated in the year 191, during the reign of Zeionises (Jihonika) Satrap of Chukhsa, who was son of Manigula and nephew of the "Great King". In the opinion of Dr. Konow,[1] the year 191 refers to the old Śaka era and, according to his reckoning, corresponds with 107-8 A. D., the *Mahārāja* who was then reigning being W'ima Kadphises.' With this view I cannot agree. The hoard in which the *askos* vase was found belongs to the same age as the other hoards, and, whatever the date of the Kushān invasion may have been, it was anterior to that invasion. My own view is that the era referred to in this inscription is the Parthian era which was used in the Pātika copper plate of the year 78 and which evidently starts from about 150 B. C.[2] If I am right, the date of the *askos* vase, when Zeinonises was Satrap, must have been about 41 A. D. and the *Mahārāja*, his uncle, must have been Gondophares.

Another point of interest connected with the Aśpavarma Plate is that in addition to the Kharoshṭhī signs *Sa* and *dra*, standing for *Staters* and *Drachmai*, which had already been found on two other plates at Taxila,[3] we have here a third sign, ζ=0, which manifestly stands for *Obol*, six of which went to the Drachma in the monetary system of the Greeks. The weight of this plate being 2603·7 grains, it follows that approximately $12\frac{1}{2}$ grains went to the obol, $36\frac{3}{4}$ to the hemidrachm, $73\frac{1}{2}$ to the drachm, and $220\frac{1}{2}$ to the stater. These weights correspond closely with the average weights of the silver hemidrachms, drachms and didrachms of Azes, Azilises and other Scytho-Parthian kings; on the other hand, they differ somewhat from those of the two silver plates referred to above

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* *Cf. A. S. R.*, 1912-13, p. 50. With the coins of Sapedana were found others of Sasan, Satavastra and Kadphises II (?).

† The Greek title στρατηγος was probably taken over by the Parthians from the Seleucid Empire. Rostovtzeff and Welles seem to think that in Western Parthia στρατηγος implied the same as the Iranian σατραπης. But there seems little doubt that at Taxila the two offices existed side by side. *Cf. Excavations at Dura-Europos*, 1928-29, pp. 207-8.

[1] *C. I. I.*, Vol. II, pp. 82 and 83.

[2] Prof. Rapson plausibly suggests that this era marked "the establishment of the new kingdom in Seistan after its incorporation into the Parthian Empire by Mithradates I, C. 150 B. C".

[3] *Cf. C. I. I.*, Vol. II, pp. 98-99 and Plate XIX, 3 and 4.

which weigh 5278 and 7505·3 grains respectively and give 86½ and 81½ grains to the drachm.

The above were not the only valuables found in Block D.' Under the floor of a room in the eastern part of the Block, in square 64·92' and at a depth of between 3 ft. 6 in. and 4 ft. 9 in. below the surface (where the ground falls away slightly towards the High Street) were the following particularly fine pieces of jewellery :—

(49) Sk. 1501. Pair of gold bracelets of thick sheet metal with flat, hinged clasps. The body is decorated with an openwork acanthus repeat pattern enriched with gold knots and rosettes, and with circlets of encrusted amber and comma-shaped leaves of inlaid shell. The clasp is relieved with fretted circlets and crescents inlaid with amber and white shell. Both body and clasp are edged with plaited borders and the hinges between the two are beaded. The back of the fretted patterns is strengthened with cross slips of gold. Diam. 2½"; width 1⅝". Plate XVIII, 6.

(50) Sk. 1507-1. A gold pendant (ht. 4⅜") consisting of two separate pieces, the upper attached to the lower by means of a hook which passes through a hollow cylinder in the lower one. The upper part is built up on a framework of flat gold wire twisted into a square and subdivided into 4 small squares. At the back of this is a somewhat broader band of gold ending in two hooks which project beyond the framework on either side; at the point of projection the base of the hooks is enriched with a small circlet edged with granules. The ornament attached to this framework consists of a quatrefoil central flower with sprays of three small leaves springing from the tips of its four obcordate petals and rosettes alternating with them in the corners. Both rosettes and leaves are inlaid with turquoise paste. The central flower is finely granulated and further enriched with a corona of five obcordate petals also inlaid with turquoise, on which a minute Cupid of gold is reposing.

The lower half of the ornament consists of a fanciful vas-elike centre, on either side of which is an infant Eros riding on a winged sea-lion, with four plaited chains terminating in a pearl and leaf device beneath. The vase-shaped ornament in the middle is set upon a three-stepped base, from which hangs a cluster of five drops of gold with a pyramid of four tiny granules clinging to each; the granules are of solid metal, but the larger drops are hollow. The body of the vase is of filigrain and granulated work with panels of turquoise paste between. The cylinder, which rather suggests a Buddhist *chakra* or wheel, is, like the one in the centre of the flower above, flanged with a separate band of gold. The Erotes and sea-monsters appear to have been cast in a mould, and afterwards chased with a graver's tool; the hair of the boys is very carefully worked, and falls on their shoulders in a natural row of ringlets. Their wings, and the wings and ears of the monsters, both front and back, were inlaid with turquoise some of which is missing.

Somewhat similar gold pendants were purchased by me some years ago in Rawalpindi and published in *A. S. R.*, 1902-3. Plate XXVIII, 1 and 2. Plate XVIII, 2.

(51) Sk. 1507-2. Gold repoussé figure of winged Aphrodite standing on an acanthus (?) pedestal. The left elbow of the goddess rests on a small pillar and her right hand on her hip. The back is a flat sheet of gold soldered at the edges to the relief. Attached to it are three small segmented rings, two behind the wings and one behind the feet. Rough workmanship. Ht. $3\frac{5}{16}''$. A similar but smaller figure was discovered in 1912-13. *Cf. A. S. R.*, 1912-13, Plate XXII, *b*, 1. Plate XVI, 3.

(52) Sk. 1507-3. Gold necklace or girdle of 84 pieces, 1″ wide. Each piece is hollow segmented into 4 circlets, and pierced laterally at the two ends. A similar gold ornament with 5 segments in each piece was published in *A. S. R.*, 1912-13, Plate XXII, *b*, 4. Plate XVIII, 10.

(53) Sk. 1550. A gold necklace of 31 pieces. At either end is a terminal encrusted with lapis-lazuli (?) and turquoise. The other pieces are enriched alternately with beaded circles centred with carbuncles and foliate devices inlaid with turquoise. At the head of each piece is a hollow bead of gold, granulated in the case of the carbuncle pieces, plain in the others. A single gold tube is attached crosswise at the back of each piece, and two at the back of each terminal, for threading. A somewhat similar gold necklace was found in Block B in 1924-25 and published in *A. S. R.*, 1924-25, Plate XI, 2. Length of each pendant $1\frac{3}{16}''$. Plate XIX, 4.

Other objects found in this Block that also deserve mention are the following :—

(54) Sk. 1000. Sq. 66·113′. 9′ B. S. Gold rosette of six plain petals. Diam. $\frac{3}{4}''$.

(55) Sk. 1204. Sq. 58·117′. 10′ 5″ B. S. Tiny gold chain with 5 links. Length $1\frac{1}{4}''$. Plate XIX, 7.

(56) Sk. 1034-1. Sq. 59·112′. 9′ 4″ B. S. Shallow bowl of copper with central boss inside. Diam. $6\frac{1}{4}''$. This and the following were found together.

(57) Sk. 1034-2. Copper mirror with tang for insertion in handle. Diam. $5\frac{3}{8}''$.

(58) Sk. 1138-1. Sq. 60·112′. 9′ 8″ B. S. Earthenware vase with a shallow base. In it was a steatite plaque of whitish schist (No. 1138-2) $4\frac{3}{4}$ in. in diam., with winged monster on lotus back-ground in upper register. On rim, incised cross-hatched lines, and, on back, lotus. Plate XV, 5.

(59) Sk. 1137. Sq. 58·104′. 9′ 2″ B. S. Lead medallion with a standing winged figure in beaded border. Two ring hooks attached to its back for suspension. Diam. $\frac{5}{8}''$.

(60) Sk. 1511. Sq. 57·88′. 5′ B. S. Bell-shaped copper cooking-pot, made in two pieces and rivetted together. Ht. $8\frac{1}{4}''$. Similar vessels have been found in previous years in Sirkap.

(61) Sk. 275. Sq. 57·105′. 6′ B. S. Shallow bowl of copper, damaged. Diam. $6\frac{1}{2}''$.

(62) Sk. 282. Sq. 57·105′. 6′ B. S. Broken copper pan with a ring handle on one side. Diam. $12\frac{3}{4}''$.

(63) Sk. 994. Sq. 59·111′. 8′ B. S. Part of copper inkpot with two receptacles, one for the ink, the other perhaps to hold the pen. On bottom, a Kharoshṭhī inscription :—..*maṇarasa*. Ht. $1\frac{1}{2}''$.

(64) Sk. 1585. Sq. 60·110′. 7′ 10″ B. S. Two-edged sword of iron or steel in five pieces, with copper band between blade and hilt. Length 2′ 8″.

(65) Sk. 1188. Sq. 59·112′. 11′ 7″ B. S. Earthenware vase with two handles. *Cf.* No. 656. Probably of Early Scytho-Parthian date. Ht. 5⅛″.

(66) Sk. 1807. Sq. 61·92′. 6′ B. S. Fragment of a dish of grey slate with three concentric circles incised on the inner side. On outside of rim, foliate border in relief; beneath, square projection with socket hole for leg. The vessel must have been a particularly handsome one. Length 7″.

(67) Sk. 1549. Sq. 61·110′. 7′ 9″ B. S. Earthenware vessel with flat bottom, steep sides, recessed rim and lid. The lid is turned over at edges so as to fit closely over the rim. Ht. 9″. Diam. of lid, 14¾″.

To the south of Block D′ some further clearance work was done in Blocks F′, G′ and H′. In the first of these there came to light (in squares 94-97× 78′-82′) a small house neatly built in the characteristic diaper masonry. In this house also I found three articles of silver which like the other hoards in houses of this class had evidently been buried in haste and forgotten. The articles in question were :—

(68) Sk. 2278-1. Sq. 96·81′. 4′ B. S. Narrow necked scent-bottle (?) of silver. The lid was fastened to the neck by a ring and chain, some of the links of which are missing. Body slightly damaged. Bottom decorated with concentric circles. Ht. 4⅝″

(69) Sk. 2278-2. Broken silver bowl.

(70) Sk. 2278-3. Silver anklet in damaged condition.

The other structures exhumed this year in Block F′ were mainly of the ordinary rubble masonry and yielded no deposits of jewellery or other valuables. The only objects of note recovered from them were the following :—

(71) Sk. 2202. Sq. 92-95′. 2′ 6″ B. S. Plaque of schist-stone divided into three compartments, with lotus pattern in relief in each and a winged monster in the upper register. Around the rim, a cross-hatch border. On back, a lotus. Diam. 4¾″. Plate XIV, 4.

(72) Sk. 2223. Sq. 96·93′. 2′ B. S. Fragment of a plaque or lid of schist. In centre, forepart of hippocamp, around which were 10 small compartments, of which 4 survive, each containing a pair of figures. Lotus border round rim. Length 5¾″. Plate XIV, 6.

(73) Sk. 2359. Sq. 96·89′. 4′ 3″ B. S. Terracotta bath-shaped inkpot (?) with projecting handle at flat end, and circular disc pierced with a hole (perhaps for the pen). Length 3⅜″. Plate XVI, 4

(74) Sk. 2418. Sq. 94·80′. 3′ B. S. Copper spoon with egg-shaped scoop and goose-headed terminal of handle. Length 7⅛″.

In the neighbouring Block G′, where another small hoard of jewellery was brought to light, the substructure is of ordinary rubble masonry, but it is evident from the remains of an oblong room in squares 105-6×87′ that there was a later superstructure of diaper masonry to which the jewellery no doubt belongs.

This jewellery was found beneath the floor of a small room in square 108·87′, 2′ 4″ below the surface. It comprised the following articles :—

(75) Sk. 2193-1. Pair of bracelets of thick sheet gold, with flat hinged clasp. The body of the bracelet is ornamented with an S-pattern repeat fretted from the metal sheet and surrounded by a plaited border. The clasp is solid and enriched on the outside with trefoil and comma-shaped cloisons once filled with stone paste or amber, and an oval medallion in the centre. In one medallion the stone is rock crystal cut *en cabuchon*; in the other it is of glass paste, now much decayed. Diam. 2½″. Plate XVIII, 5.

(76) Sk. 2193-2. Hollow gold collar (*hansuli*) in two pieces, filled with a core of lac and provided with a socket and tenon joint at their narrower, and a push clasp at their thicker ends. Diam. 5¾″. *Cf.* No. Sk. 1632-1.

(77) Sk. 2193-3. A gold ear-ring of crescent and pendant form enriched with clustered drops and granulation. The clasp of the crescent is of double horse-shoe design. Similar ear-rings have been found in previous years. Length 3½″. *Cf.* No. 2, above.

(78) Sk. 2193-4. Gold hoop finger ring of thin metal, with oval bezel from which the gem is missing. Diam. 13/16″.

(79) Sk. 2193-5. A pair of hollow anklets of silver in a very fragmentary condition. Diam. about 6″.

Besides this small collection of jewellery, Block G′ yielded also the following objects, all of which, like the jewellery, belong to the latest period of occupation :—

(80) Sk. 2257. Sq. 103·83′. 3′ 4″ B. S. Copper cup of thin metal. Diam. 3⅛″.

(81) Sk. 2297. Sq. 108·87′. 1′ 6″ B. S. Copper jug with plain handle of a type common in late Parthian period. The upper and lower parts are rivetted near the shoulder; and there is a repair patch of copper sheeting rivetted on the bottom. The lid, which was attached to the handle by a chain, is missing. Ht. 10″.

(82) Sk. 2285. Sq. 105·89′. 3′ B. S. Fragment of a plaque or lid of vessel of grey schist. In centre, lotus medallion surrounded originally by 10 compartments, of which 5 survive, each with a pair of standing figures, holding a wine cup between them. Incised cross hatchings on rim and between compartments. Diam. 6½″. Plate XIV, 9.

(83) Sk. 2261. Sq. 103·83′. 3′ 4″ B. S. Collection of glass beads of various shapes and sizes, mainly blue and white. In very fragile condition.

(84) Sk. 2340. Sq. 109·85′. 4′ 3″ B. S. Circular bezel of a copper finger ring with a standing draped figure engraved on it. Damaged. Diam. 11/16″.

(85) Sk. 2189. Sq. 108·85′. 2′ 6″ B. S. A lump of lead. Length 9½″.

Block H′, which is entirely of rubble masonry, yielded no small antiquities of note.

In 1926 an exceptionally fine hoard of silver vessels and gold and silver jewellery was found in a building immediately at the back of the great Apsidal

Temple. This building, which is solidly constructed of exactly the same kind of large diaper masonry as the Temple itself, has been completely cleared during the past season and proves to have abutted on to the East wall of the Temple compound, of which there can be little doubt that it formed an integral part. The point is of some interest in connexion with the silver vessels and other valuables unearthed here; for if I am right in supposing that this house belonged to the Temple priests, it is not unnatural to infer that the valuables in question may have been gifts to the Temple presented by different donors, not, as I was at first inclined to surmise, the proceeds of various robberies. And in that case it would be reasonable to interpret the inscription on the silver *askos* vase referred to above as implying that the vase was "a gift of" Zeionises (Jihonika) rather than that the record was dated "in the reign of" Zeionises, just as the inscription on a silver cup found in the same spot seems to imply that it was a gift of Theodoros, the son of Thavara, and that on a silver plate that it was the gift of *Mumjukrita*[1]. It is a misfortune that almost the whole of the northern half of this building had been obliterated, virtually nothing remaining except the group of chambers illustrated in Plate XIII, *d*. Their floor level was clearly indicated by some remnants of pavements inside the chamber[2] as well as by the drain opening in the wall (visible in the photograph) which emptied into the covered street drain to the left. It was beneath this floor, in the small chamber just at the back of the man visible in the picture, that the treasure of 1926 was found. In my recent excavations the only objects brought to light were :—

(86) Sk. 2036. Sq. 57·46′. 4′ B. S. Male figure of terracotta sitting to front on seat. Wears *dhoti*, bracelets, necklace and band or strap passing over left shoulder and under right arm. Right hand damaged and head missing. Ht. 3⅛″.

(87) Sk. 2032. Sq. 54·43′. 2′ B. S. Fragmentary leg belonging to a small box or stool of bone. Two of its sides are decorated with incised lines and there are two holes for the fixing of pins. Length 1½″.

(88) Sk. 970 from spoil earth. Broken scoop of grey stone in form of shell; with bird-headed handle. Length 2½″.

To the north of the above building some further clearance work was done in Blocks A, B and C, but the only structural remains worth mentioning that came to light were a series of earthenware rings evidently belonging to a soak-pit, which were found in squares 26×43′ and 44′; and the plinth of a square *stūpa* inside a small cell, which was found in squares 20-21×42′. The plinth is composed of rough limestone masonry laid in mud and finished with a coating of plaster. From Block B, square 30·44′ (4 ft. *b.s.*) came a circular medallion of terracotta 5¾ in. in diameter, with a floral pattern incised on one side (Sk. 2133); and from Block A, the following objects :—

(89) Sk. 2100. Sq. 20·44′. 4′ 9″ B. S. Diamond-shaped bezel of gold with beaded rim. Length $\frac{7}{16}$″.

[1] *Cf.* Konow in *C. I. I.*, Vol. II, pt. i, pp. 82 and 98.
[2] *I.c.*, in squares 59-61×43′-45′.

(90) Sk. 2104. Sq. 17·43′. 3′ B. S. Rectangular slab of bone decorated with incised circlets on one side. Three small holes in one of the longer edges and two in each of the shorter ones for the fixing of pegs. Probably the side of a box. Size $3\frac{1}{2}'' \times 1\frac{5}{8}'' \times \frac{3}{16}''$.

(91) Sk. 2110. Sq. 16·43′. 3′ 4″ B. S. Rectangular piece of stone with Kharoshṭhī inscription of four letters: *migalasa*. Size $1\frac{3}{16}'' \times \frac{15}{16}'' \times \frac{15}{16}''$.

(92) Sk. 2157. Sq. 26·43′. 6′ 6″ B. S. Copper key with 4 prongs. The end of the handle is pierced with hole for string. Length $2\frac{1}{8}''$.

Simultaneously with the surface excavations described in the foregoing pages, the deep digging which had been started in the previous season in Block 2′ was continued in that Block and extended also to Blocks 3′, 2A′, 3A′, 2B′ and C′—all on the west side of the High Street. In Block 2′ the sixth stratum had already been reached in 1928-29, and all that remained to be done was to remove the structural remains of the 4th and lower strata, and then carry the excavation down to virgin soil. The remains below the sixth stratum were very scanty, consisting only of 3 small sections of a rubble wall running East and West, and what appears to have been a patch of pavement of smooth river pebbles laid at a steep slope, a few yards north of it. About 4 feet below the base of this walling was a patch of rough rubble pavement which presumably dates from a still earlier age; and probably contemporary with it is a short section of a road paved with pebbles which runs along the south side of the city wall, and ascends at a slight incline from East to West. Needless to say, this road bears no relation to the city wall itself, which was not built until much later, when the city had been at least twice destroyed and rebuilt[1].

Of the successive strata of remains brought to light in the neighbouring Blocks 3′, 2A′, 3A′ and 2B′, the plans and sections reproduced in Plates X and XI and the photographs of Blocks 2A′, 3A′ and 2B′ in plates XII, *a* and *b*; XIII, *a* will give the reader a tolerably good idea. All of these Blocks had been excavated in previous years down to the second stratum. This year the 3rd, 4th, 5th and 6th strata have been exposed. In these Blocks, however, only the remains of the three topmost levels have been dismantled, since the experience gained in Block 2′ did not seem to justify the removal of the earlier ones; and, as a result, the plans of the fifth and sixth strata are less clear than they might otherwise have been; nor has any attempt been made to penetrate lower than the sixth stratum. In Block C′ (Plate XIII, *b*) the excavation has been carried down only as far as the fifth stratum. Apart from the diaper masonry of Late Parthian and Early Kushān times, which, as already explained, is employed in some of the latest and most substantial buildings on the site, all the remains exposed are constructed of rubble masonry. Speaking generally, the best of this rubble masonry (that is, the neatest and most compact) is found in the 4th and 5th strata, while the roughest occurs in the sixth: and it is noticeable, too, that from the 3rd stratum downwards *kanjur* stone was used much more freely than limestone. These observations, however, are not universally true. Here and there walls can be picked out in the 4th, 5th or 6th strata

[1] *Cf. A. S. R.*, 1928-29, p. 62.

which are indistinguishable from others in the 2nd or 3rd strata, and it would therefore be impossible, on the strength of its materials or the method employed in laying them, to affirm of any given specimen of rubble masonry that it belonged to this or that particular period. Notwithstanding, however, that the masonry of the several strata is so uniform in character, the stratification is quite well defined and occasional patches of pavement, drains and other features leave no doubt as to the relative depths of the successive floor levels. Needless to say, these levels are not constant throughout the site, since even in the old days there was a slight rise of the ground towards the south as well as eastward and westward from the High Street. So far, however, as the Blocks with which we are now dealing are concerned, the differences are negligible, amounting to not more than about a foot, and the following may accordingly be taken as the average levels of the floors in these blocks* :—

	Below surface.
2nd stratum	2—3 feet.
3rd ,,	5—6 ,,
4th ,,	9—10 ,,
5th ,,	13—14 ,,
6th ,,	15—17 ,,

This stratification is highly instructive with reference to the history of the city and the relative ages of the many coins and other objects associated with the different levels. Thus, it is evident from the coin-finds that the whole period of time covered by these six settlements does not exceed more than about three centuries, *viz.*, from the beginning of the 3rd century B. C. to the end of the 1st or early part of the 2nd century A. D. And it is also evident that the sixth and fifth strata correspond with the period when the Bactrian Greeks were ruling at Taxila and that the fourth stratum brings us down to the time of the Early Scytho-Parthian rulers. The inferences, however, to be drawn from the stratification are not always as clear-cut and definite as might at first sight be expected, and the evidence provided has to be handled with caution. In some places the laying of deep foundations, which in the case of some of the Parthian buildings of diaper masonry go down as much as 15 or 16 feet, and in other places the sinking of soak wells involved the disturbance of the débris in the lower levels and consequent confusion of antiquities. At all times, moreover, the practice was common of burying valuables several feet, may be, beneath the ground-floor or basement rooms, with the result that such valuables may be found actually in one of the preceding strata. Add to this that some of the householders seem to have used the ground-floor rooms of their predecessors' houses as basement *tahkhanas* for their own, and it will readily be understood that there are plenty of loopholes for anyone not thoroughly conversant with the conditions to draw erroneous conclusions from the respective levels at which minor antiquities have been found.. It might for example be inferred from the depths at which they have been unearthed, that some of the jewellery hoards described

* In Blocks 3′, 2A′ and 3A′ the average surface level was 14 ft. below datum ; in Block 2B′ it was 13 ft.

above belonged to the third stratum rather than the second; and it might even be inferred from the presence of a coin of Kujūla Kadphises at a depth of 16 ft. 9 in. below the surface in Block 2B′ and of a coin of Hermaios at a depth of 14 ft. in Block 3′, that these kings antedated Maues and Azes. The presence, however, of one or two single coins at any given level cannot, for the reasons stated above, be used as evidence, unless they happen to have been found either imbedded in the masonry or in some position which admits of no doubt of the date when they were deposited there. On the other hand, when groups of even a few coins are found buried beneath the floor of a house, it is a reasonable inference that they were buried there by some person living in the house; and when a number of such groups are found, the inference becomes a virtual certainty. Thus, the discovery of more than a dozen different lots of coins of Azes I beneath the floor level of the Fourth stratum leaves no room for doubt that the buildings of that stratum were standing during the reign of the king in question, and the discovery of two lots of Maues' coins, one immediately beneath the floor level of the 4th stratum and the other at a depth of 16 feet in Block 2A′ make it virtually certain that Maues must have been either contemporary with or slightly earlier than Azes I. Before, however, discussing these coins from the different strata, let me state that in Block C′, from which many of them come but which is not included among the plans on Plate X, my excavation this season did not go deeper than the fifth stratum. Down to this depth the strata correspond closely in all respects with those of the Blocks described above, the only difference being that the ground here was slightly higher, the average surface level being 12 ft. below datum as compared with 14½ ft. in Block 3′, 2A′ and 3A′, and the floor level of the fifth stratum about 24 ft. below datum as compared with 26 to 27 ft. in the other Blocks. As to the structures brought to light in this area, it is enough here to say that, like those in the other Blocks, they appear to be moderate sized dwellings built on no very regular plan. It is noteworthy, however, that the houses of the 4th stratum are decidedly superior in both plan and construction to those of the 3rd and 2nd strata, and that those of the fifth stratum follow a noticeably different alignment from their successors.

The coins recovered in the course of this season's digging number 454 in all. From the list of them appended below the reader will be able to see for himself the relative numbers of the various issues, as well as the find-spot of each specimen and the depth at which it was recovered below the surface; and he will also observe the unexpected anomalies which occur in the column giving the depths. After the most careful scrutiny of each individual find I can discover little among them that does not accord with the scheme of chronology now generally accepted for the Greek, Scytho-Parthian and Early Kushān kings. There are two points, however to which I must draw special attention. The first is that the 6th and 5th periods of occupation clearly synchronize with the rule of the Greek princes at Taxila, whose coins, though not numerous are found in association with local Taxilan issues from a depth of 20 feet or thereabouts upwards to within 2 ft. 6 in. of the surface. The kings represented are

Agathocles, Heliokles, Lysias, Antialkidas, Archebios, Apollodotos, Strato I, Menander, Epander, Zoilos, Philoxenos, Hippostratos, Telephos and Hermaios, but their coins are not numerous enough (as indeed, they could hardly be in so small an area) to prove which of these princes ruled in Taxila itself, or in what order they succeeded one another.

The second point is this. In his *Catalogue of the coins in the Panjāb Museum, Lahore* (p. 93) Mr. Whitehead contests Mr. Vincent Smith's view that there were two kings named Azes, and expresses the opinion that the differences in type and style between the abundant issues of Azes can be adequately explained on grounds of locality alone, operating through a long reign. Mr. Whitehead's view is shared by Dr. Sten Konow, who holds not only that there was one Azes but that Dr. Thomas was right in regarding Azes and Azilises as one and the same person, Azes being merely a shortened form of Azilises (Ayilisha). Now leaving aside for the moment the question of the identification of Azes with Azilises, it seems quite impossible to reconcile Mr. Whitehead's view with the facts revealed at Taxila. For, if there is one fact which emerges more clearly than another from the coin-finds it is that a king named Azes was reigning at the time when the buildings of the fourth stratum were in occupation; on the other hand, it is equally clear that this king could not have been identical with the Azes who was king of kings when Aśpavarma, the uncle of Sasan, was *Strategos* and who could not have been far removed in date from Gondophares, Abdagases and Pacores. Dr. Konow himself put the accession of Azes in the year 7 or 6 B. C., and, as we can hardly allow less than two decades for the issue and circulation of the six distinct types of his coins which are found beneath the 4th stratum, it follows that the buildings of this stratum must, according to Dr. Konow's chronology, have been standing at least two or three decades after the beginning of the Christian era; and that the next two cities rose and fell on the ruins of their predecessors within a space of forty years, which is hardly believable. Whatever the date of the second Azes may have been, it seems to me, from the evidence of these coin-finds, that Azes I could not conceivably have come to the throne later than the middle of the first century B. C. For the same reason it is impossible to accept Dr. Konow's views in regard to the date of the great king Maues,* whom he identifies with the king Moga of the Taxila copper plate of Pātika and believes to have been reigning in B. C. 6. Maues must have been at least two generations earlier † than that.

Although, however, it is clear that there were at least two kings named Azes, I am unable at present to differentiate between their coins. Of the 39 types listed in Mr. Whitehead's *Catalogue*, nine are represented among the finds of the past season, *viz.*, (*a*) Mounted King and Zeus standing, (*b*) Mounted King and Zeus Nikephoros, (c) Mounted King and Pallas, (*d*) Mounted King and Bull, (*e*) King seated and Hermes, (*f*) Enthroned Demeter and Hermes, (*g*) Lion and Demeter, (*h*) Bull and Lion, (*i*) Elephant and Bull. Five of these nine types, namely *a*, *b*, *c*, *e* and *f*, which occur in groups in the fourth stratum,

* *C. I. I.*, Vol. II, pt. i, pp. XXIX, XXXVI, 28, etc.
† *J. R. A. S.*, 1914, pp. 994 *ff*.

unquestionably date from the middle of the first century B. C., and it is probable that the other four types, which are represented by single specimens here and there, also go back to the time of Azes I. On the other hand, types *a*, *c*, *e*, and *f* are all found freely in the later Parthian stratum, and may well have been struck by Azes II, who to judge by the evidence from Sirkap, does not appear to have initiated any special types of his own.[1]

As to the controversy alluded to above concerning Azes and Azilises, the fact that among all the coins of Azes found during the past season there was not a single specimen bearing the name of Azilises should go far to discount Dr. Thomas' suggestion that the two kings were identical.

A list of coins found at Sirkap during 1929-30, showing their find-spots and types.

Serial No.	King.	No.	Block.	Square.	B. S.	Type.
1	Local Taxila . .	2109	A	15·45′	3′ 5″	*Chaitya* and tree in railing.
2	Do. . . .	2279	F′	95 79′	4′ 2″	*Chaitya* and hut.
3	Do. . . .	148	2B′	40·94′	4′ 3″	Lion to r and blank.
4	Do. . . .	2286	G′	109 89′	6′ 0″	*Dharmachakra* and *svastika*.
5	Do. . . .	784	D′ west	61·109′	7′ 0″	Three-arched *chaitya* and taurine.
6	Do. . . .	1075	2A′	19·87′	7′ 9″	*Chaitya* and *Chaitya*.
7	Do. . . .	1016	3A′	27·91′	9′ 0″	*Chaitya* and blank.
8	Do. . . .	1413	D′ west	62·113′	10′ 3″	*Chaitya* and taurine.
9	Do. . . .	889	2B′	38·93′	10′ 10″	*Chaitya* and blank.
10	Do. . . .	1839	2B′	36·92′	11′ 6″	*Svastika* and blank.
11	Do. . . .	2782	C′	51·93′	12′ 6″	*Chaitya* and *chaitya*.
12	Do. . . .	2542	3A′	28 89′	12′ 6″	*Chaitya* and blank.
13	Do. . . .	1975	2B′	31·91′	13′ 0″	*Chaitya* and hut.
14	Do. . . .	2842	C′	52·88′	13′ 0″	*Svastika* and blank.
15	Do. . . .	2000	2B′	36·91′	13′ 6″	*Chaitya* and hut.
16	Do. . . .	3093	3′	10 98′	15′ 2″	*Chaitya* and indistinct.
17	Do. . . .	3115	2A′	19 90′	16′ 0″	Taurine and hut.
18	Do. . . .	3120	3′	11·98′	16′ 0″	Taurine and indistinct.
19	Do. . . .	3056	3′	13·99′	16′ 0″	*Chaitya* and *chaitya*.
20	Do. . . .	3172	2′	10 89′	17′ 0″	Elephant and lion.
21	Do. . . .	2768	2B′	39·87′	17′ 6″	Elephant and *chaitya*, and lion and *svastika*.
22	Do. . . .	2942	3A′	28·89′	20′ 0″	Ditto.
23	Agathokles (?) . .	3049	3′	11·101′	15′ 0″	Buddhist *Stupa* and tree in railing.
24	Heliokles . . .	2733	C′	50·91′	11′ 8″	Bust of king and elephant.

[1] In his excellent work on *Early Indian Sculpture*, Dr. Bachhofer seeks to show from certain coin-finds of Azes that the beginnings of the Buddhist art of Gandhara go back to the middle of the 1st century B. C. He may be right, but in view of the fact that the coins of Azes were perpetuated on a large scale for at least two generations, we must be cautious as to the inferences we draw from them.

A list of coins found at Sirkap during 1929-30, showing their find-spots and types— contd.

Serial No.	King.	No.	Block.	Square.	B. S.	Type.
25	Heliokles	2818	3A′	28·89′	16′ 4″	Bust of king and elephant.
26	Do.	2866	2B′	37·89′	17′ 8″	Elephant and bull.
27	Lysias	2576	3′	11·98′	13′ 7″	Bust of bearded Herakles and elephant.
28	Antialkidas	430	C′	49·87′	7′ 6″	Zeus and laureate piloi and palm.
29	Do.	2764	2B′	38·87′	16′ 9″	Bust of king and elephant.
30	Do.	2939	2B′	38·88′	19′ 6″	Zeus and piloi and palm.
31	Archebios	3156	2′	14·87′	14′ 4″	Elephant and owl.
32	Apollodotos	1447	3′	11·99′	11′ 0″	Indian bull and tripod.
33	Do.	2870	3A′	28·88′	16′ 0″	Apollo and Tripod lebes.
34	Do.	2826	2B′	38·87′	17′ 6″	Ditto.
35	Strato I	3073	3A′	27·88′	18′ 2″	Bust of Herakles and Nike.
36	Menander	2293	F′	92·95′	2′ 6″	Elephant's head and club.
37	Do.	2194	G′	112·94′	4′ 0″	Helmeted bust of king and buckler.
38	Do.	2576	3′	11·98′	13′ 7″	Bust of Pallas and Nike.
39	Do.	3044	2A′	18·91′	15′ 9″	Elephant's head and club.
40	Epander	1750	D′	58·90′	6′ 6″	Winged Nike and humped bull.
41	Zoilos	2950	C′	45·93′	12′ 6″	Elephant and tripod lebes.
42	Philoxenos	1626	C′	50·86′	10′ 8″	Demeter and bull.
43	Do.	2863	2B′	31·91′	17′ 4″	City Goddess and Indian bull.
44	Hippostratos . .	1418	C′	51·87′	9′ 0″	Apollo and tripod lebes.
45	Do. . .	2898	C′	46·90′	13′ 0″	Ditto.
46	Telephos	2680	3′	11·97′	14′ 6″	Figure with serpent tail and god and goddess.
47	Hermaios	2026	D	57·43′	2′ 6″	Bust of Hermaios and winged Nike.
48	Do.	2024	D	60·45′	3′ 0″	Bust of king and winged Nike.
49	Do.	2246	G′	106·91′	3′ 6″	Ditto.
50	Do.	2042	D	53·45′	4′ 0″	Bust of king and enthroned Zeus.
51	Do.	104	3A′	24·90′	4′ 0″	Bust of king and winged Nike.
52	Do.	124	3A′	22·92′	4′ 10″	Ditto.
53	Do.	142	2B′	30·82′	5′ 3″	Ditto.
54	Do.	152	2B′	37·86′	5′ 6″	Ditto.
55	Do.	214	2B′	38·94′	6′ 0″	Ditto.
56	Do.	172	2B′	31·87′	6′ 3″	Bust of king and enthroned Zeus.
57	Do.	1434	Street 2B′-C′	41·92′	7′ 0″	Bust of king and winged Nike.
58	Do.	462	C′	48·95′	7′ 2″	Ditto.
59	Do	496	3A′	27·92′	7′ 5″	Bust of king and enthroned Zeus.
60	Do.	1462	C′	45·94′	8′ 5″	Bust of king and winged Nike.

A list of coins found at Sirkap during 1929-30, showing their find-spots and types—contd.

Serial No.	King.	No.	Block.	Square.	B. S.		Type.
61	Hermaios . . .	518	2B′	39·87′	8′	9″	Bust of king and winged Nike.
62	Do. . . .	1119	D′ west	55·111′	8′	10″	Ditto.
63	Do. . . .	1567	C′	45·94′	9′	0″	Ditto.
64	Do. . . .	1303	D′ west	57·117′	9′	0″	Ditto.
65	Do. . . .	1481	C′	43·88′	9′	0″	Ditto.
66	Do. . . .	1402	D′ west	57·103′	10′	5″	Ditto.
67	Do. . . .	2613	3′	10·97′	14′	0″	Ditto.
68	Maues . . .	2231	H′	120·91′	2′	6″	Elephant's head and caduceus.
69	Do.	2371	F′	99·79′	3′	4″	Ditto.
70	Do.	350	C′	51·90′	5′	5″	God and goddess.
71	Do.	1559	C′	46·95′	9′	4″	Poseidon standing and female figure.
72	Do.	2738	C′	52·90′	12′	0″	Elephant's head and caduceus.
73	Do.	2542	3A′	28·89′	12′	6″	Poseidon and Bacchante.
74	Do.	2569	2A′	20·92′	12′	9″	Elephant's head and caduceus.
75	Do.	2569	2A′	20·92′	12′	9″	Ditto.
76	Do.	2616	3′	12·101′	13′	9″	Ditto.
77	Do.	2613	3′	10·97′	14′	0″	Poseidon and Bacchante.
78	Do.	2573	3′	14·98′	14′	0″	Elephant's head and caduceus.
79	Do.	2784	C′	52·87′	14′	0″	Elephant and bull.
80	Do.	2691	3′	14·97′	14′	3″	Elephant's head and caduceus.
81	Do.	2477	2B′	36·86′	15′	0″	Poseidon and Bacchante.
82	Do.	2636	2B′	39·87′	15′	9″	Ditto.
83	Do.	3152	2A′	27·93′	16′	0″	Ditto.
84	Do.	3152	2A′	27·93′	16′	0″	Ditto.
85	Do.	3152	2A′	27·93′	16′	0″	Ditto.
86	Do.	3167	2′	13·92′	16′	6″	Artemis radiate and humped bull.
87	Do.	2765	2B′	39·87′	17′	6″	Artemis and humped bull.
88	Azes	1983	D	60·42′	2′	0″	Enthroned Demeter and Hermes.
89	Do.	1744	D′	65·93′	2′	2″	Mounted king and Zeus standing.
90	Do.	10	3A′	23·91′	2′	9″	King seated and Hermes.
91	Do.	2103	A	17·43′	3′	0″	Mounted king and Zeus standing.
92	Do.	2220	G′	105·93′	3′	2″	Lion and Demeter.
93	Do.	2356	F′	100·91′	3′	6″	Mounted king and Zeus standing.
94	Do.	587	D′ west	55·114′	3′	6″	Ditto.
95	Do.	2316	F′	92·94′	3′	6″	King seated and Hermes.
96	Do.	1508	D′	57·95′	3′	8″	Mounted king and Zeus standing.

A list of coins found at Sirkap during 1929-30, showing their find-spots and types—contd.

Serial No.	King.	No.	Block.	Square.	B. S.	Type.
97	Azes	2057	C	41·42′	4′ 0″	Mounted king and Zeus standing.
98	Do.	2057	C	41·42′	4′ 0″	Ditto.
99	Do.	2353	F′	98·86′	4′ 0″	Ditto.
100	Do.	591	D′ west	57·109′	4′ 0″	Ditto.
101	Do.	2034	D′	57·46′	4′ 0″	Ditto.
102	Do. . .	2301	G′	109·85′	4′ 3″	Ditto.
103	Do. . . .	2301	G′	109·85′	4′ 3″	Ditto.
104	Do.	2301	G′	109·85′	4′ 3″	Ditto.
105	Do.	2301	G′	109·85′	4′ 3″	Ditto.
106	Do.	2301	G′	109·85′	4′ 3″	Ditto.
107	Do. . . .	2340	G′	109·85′	4′ 3″	Ditto.
108	Do. . . .	2340	G′	109·85′	4′ 3″	Ditto.
109	Do.	6	3A′	24·90′	4′ 6″	King seated and Hermes.
110	Do.	2265	G′	109·89′	4′ 6″	Lion and Demeter.
111	Do. . . .	2087	D	60·45′	4′ 6″	Mounted king and Zeus standing.
112	Do. . . .	2265	D′	109·89′	4′ 6″	Ditto.
113	Do.	15	2A′	18·88′	4′ 9″	King seated and Hermes.
114	Do.	2101	A	20·44′	4′ 9″	Mounted king and Zeus standing.
115	Do.	2281	G′	102·86′	5′ 0″	King seated and Hermes.
116	Do	590	D′ west	56·120′	5′ 0″	Ditto.
117	Do.	142	2B′	30·82′	5′ 3″	Lion and Demeter.
118	Do.	142	2B′	30·82′	5′ 3″	Mounted king and Zeus standing..
119	Do.	1396	Street 2B′-C′	41·90′	5′ 4″	Ditto.
120	Do.	1509	D′	57·94′	5′ 4″	King seated and Hermes.
121	Do	319	C′	43·93′	5′ 5″	Mounted king and Pallas.
122	Do. . . .	21	3′	10·97′	5′ 5″	King seated and Hermes.
123	Do . . .	166	3A′	23·91′	6′ 0″	Ditto.
124	Do	2286	G′	109·89′	6′ 0″	Mounted king and Zeus standing.
125	Do.	2048	D	49·42′	6′ 0″	Ditto.
126	Do.	284	D′ west	57·105′	6′ 0″	Ditto.
127	Do.	1385	Street 2B′-C′	41·87′	6′ 0″	Ditto.
128	Do.	1701	D′	63·86′	6′ 2″	Ditto.
129	Do.	418	C′	53·94′	6′ 4″	King seated and Hermes.
130	Do.	309	D′ west	57·105′	6′ 6″	Ditto.
131	Do.	309	D′ west	57·105′	6′ 6″	Mounted king and Zeus standing.
132	Do.	967	2A′	20·88′	6′ 7″	Lion and Demeter.

A list of coins found at Sirkap during 1929-30, showing their find-spots and types—contd.

Serial No.	King.	No.	Block.	Square.	B. S.	Type.
133	Azes	2125	D	52·43′	6′ 0″	Bull and lion.
134	Do.	1755	D′	58·86′	7′ 0″	King seated and Hermes.
135	Do.	261	2 B′	39·86′	7′ 0″	Ditto.
136	Do.	234	2B′	40·94′	7′ 0″	Mounted king and Zeus standing.
137	Do.	108	3A′	26·88′	7′ 0″	Ditto.
138	Do.	1851	D′	61·92′	7′ 0″	Ditto.
139	Do.	348	D′ west	55·103′	7′ 3″	Ditto.
140	Do.	264	2B′	39·85′	7′ 3″	Ditto.
141	Do.	363	D′ west	56·107′	7′ 3″	King seated and Hermes.
142	Do.	1246	D′ west	56·102′	7′ 6″	Ditto.
143	Do.	288	2B′	40·87′	7′ 6″	Ditto.
144	Do.	255	2B′	34·88′	7′ 6″	Mounted king and Zeus standing.
145	Do.	408	C′	46·94′	7′ 6″	Ditto.
146	Do.	537	D′ west	59·104′	7′ 7″	Ditto.
147	Do.	421	C′	44·87′	7′ 7″	King seated and Hermes.
148	Do.	1197	D′ west	56·97′	7′ 8″	Ditto.
149	Do.	369	D′ west	56·101′	7′ 8″	Mounted king and Zeus standing.
150	Do.	369	D′ west	56·101′	7′ 8″	Ditto.
151	Do.	369	D′ west	56·101′	7′ 8″	Ditto.
152	Do.	784	D′ west	61·109′	7′ 8″	Ditto.
153	Do.	774	D′ west	65·112′	7′ 10″	King seated and Hermes.
154	Do.	1114	2A′	18·94′	7′ 10″	Ditto.
155	Do.	633	2B′	37·95′	8′ 0″	Bull and elephant.
156	Do.	760	3A′	26·88′	8′ 0″	Bull and lion.
157	Do.	826	D′ west	65·107′	8′ 0″	King seated and Hermes.
158	Do.	252	2B′	31·88′	8′ 0″	King on horseback and Zeus Nikephoros.
159	Do.	1466	Street 2B′-C′	42·93′	8′ 1″	Mounted king and Zeus standing.
160	Do.	1224	2A′	18·88′	8′ 4″	King seated and Hermes.
161	Do.	1224	2A′	18·88′	8′ 4″	Ditto.
162	Do.	857	3A′	22·89′	8′ 4″	Lion and Demeter.
163	Do.	1524	C′	43·95′	8′ 4″	Bull and elephant.
164	Do.	339	D′ west	57·100′	8′ 7″	King seated and Hermes.
165	Do.	862	3A′	22·93′	8′ 7″	Enthroned Demeter and Hermes.
166	Do.	991	D′ west	65·107′	8′ 7″	King seated and Hermes.
167	Do.	1554	C′	44·94′	8′ 7″	Mounted king and Zeus standing.
168	Do.	661	2B′	30·85′	8′ 8″	Ditto.

A list of coins found at Sirkap during 1929-30, showing their find-spots and types—contd.

Serial No.	King.	No.	Block.	Square.	B. S.	Type.
169	Azes	661	2B′	30·85′	8′ 8″	Mounted king and Zeus standing.
170	Do.	1273	3′	10·99′	8′ 8″.	Ditto.
171	Do.	1209	2A′	20·93′	8′ 8″	King seated and Hermes.
172	Do.	1322	3′	10·96′	8′ 9″	Ditto.
173	Do.	1023	2A′	20·87′	8′ 10″	Bull and elephant.
174	Do. . . .	1418	C′	51·87′	9′ 0″	King seated and Hermes.
175	Do.	814	D′ west	64·112′	9′ 0″	Ditto.
176	Do.	1272	D′ west	61·113′	9′ 0″	Mounted king and Zeus standing.
177	Do.	553	2B′	31·85′	9′ 0″	Ditto.
178	Do.	1051	D′ west	56·106′	9′ 1″	Ditto.
179	Do.	847	3A′	26·89′	9′ 2″	Bull and elephant.
180	Do.	841	3A′	26·88′	9′ 2″	King seated and Hermes.
181	Do.	1378	3′	11·96′	9′ 4″	Mounted king and Pallas crowning herself.
182	Do.	559	2B′	34·90′	9′ 4″	King seated and Hermes.
183	Do.	617	2B′	35·86′	9′ 6″	Ditto.
184	Do.	1632	C′	42·93′	9′ 6″	Ditto.
185	Do.	2417	2A′	18·89′	9′ 6″	Ditto.
186	Do.	919	D′ west	65·108′	9′ 6″	Ditto.
187	Do.	1334	3′	11·99′	9′ 6″	Mounted king and Zeus standing.
188	Do.	1708	C′	52·86′	9′ 7″	King seated and Hermes.
189	Do.	1036	D′ west	65·111′	9′ 8″	Ditto.
190	Do.	1411	D′ west	57·108′	9′ 8″	Ditto.
191	Do. . . .	1411	D′ west	57·108′	9′ 8″	Mounted king and Zeus standing.
192	Do.	634	2B′	34·88′	9′ 9″	King seated and Hermes.
193	Do.	584	2B′	32·89′	9′ 10″	Lion and Demeter.
194	Do.	515	2B′	32·92′	9′ 11″	King seated and Hermes.
195	Do.	1664	C′	52·87′	10′ 0″	Ditto.
196	Do.	2173	3A′	26·92′	10′ 0″	Mounted king and Zeus Nikephoros.
197	Do.	2173	3A′	26·92′	10′ 0″	Ditto.
198	Do.	2173	3A′	26·92′	10′ 0″	Ditto.
199	Do.	659	2B′	31·85′	10′ 0″	Lion and Demeter.
200	Do.	1458	3′	15·98′	10′ 2″	King on horseback and bull.
201	Do.	657	2B′	32·85′	10′ 2″	King seated and Hermes.
202	Do.	1695	C′	44·94′	10′ 2″	Lion and Demeter.
203	Do	1635	C′	51·87′	10′ 2″	Mounted king and bull.
204	Do.	1372	3′	11·101′	10′ 3″	Bull and elephant.

A list of coins found at Sirkap during 1929-30, showing their find-spots and types—contd.

Serial No.	King.	No.	Block.	Square.	B. S.	Type.
205	Azes	747	2B′	35·92′	10′ 4″	Mounted king and Zeus standing.
206	Do.	742	2B′	38·86′	10′ 4″	King seated and Hermes.
207	Do.	1191	D′ west	56·106′	10′ 4″	Mounted king and Zeus standing.
208	Do.	753	2B′	37·87′	10′ 5″	King seated and Hermes.
209	Do.	675	2B′	36·88′	10′ 5″	Ditto.
210	Do.	868	2B′	36·87′	10′ 6″	Bull and elephant.
211	Do.	868	2B′	36·87′	10′ 6″	King seated and Hermes.
212	Do.	1775	C′	42·87′	10′ 6″	Ditto.
213	Do.	1350	D′ west	58·108′	10′ 6″	Ditto.
214	Do.	1350	D′ west	58·108′	10′ 6″	Mounted king and Zeus standing.
215	Do.	1583	D′ west	58·110′	10′ 6″	Ditto.
216	Do.	1770	C′	45·94′	10′ 6″	Ditto.
217	Do.	1059	D′ west	64·114′	10′ 7″	Ditto.
218	Do.	1059	D′ west	64·114′	10′ 7″	Ditto.
219	Do.	1125	D′ west	60·109′	10′ 7″	Ditto.
220	Do.	803	2B′	32·85′	10′ 7″	Ditto.
221	Do.	750	2B′	40·94′	10′ 8″	Ditto.
222	Do.	750	2B′	40·94′	10′ 8″	Ditto.
223	Do.	750	2B′	40·94′	10′ 8″	Ditto.
224	Do.	652	2B′	33·90′	10′ 8″	King seated and Hermes.
225	Do.	652	2B′	33·90′	10′ 8″	Ditto.
226	Do.	1726	C′	44·90′	10′ 8″	Mounted king and Zeus standing.
227	Do.	1662	C′	50·88′	10′ 8″	King seated and Hermes.
228	Do.	1688	C′	45·92′	10′ 8″	Ditto.
229	Do.	1738	C′	52·86′	10′ 9″	Ditto.
230	Do.	907	2B′	35·90′	10′ 10″	Mounted king and Zeus standing.
231	Do.	1447	3′	11·99′	11′ 0″	Ditto.
232	Do.	2395	3A′	27·88′	11′ 0″	Elephant and Bull.
233	Do.	896	2B′	38·91′	11′ 0″	King seated and Hermes.
234	Do.	1447	3′	11·99′	11′ 0″	King on horseback and Pallas.
235	Do.	1444	3′	10·100′	11′ 0″	King seated and Hermes.
236	Do.	1444	3′	10·100′	11′ 0″	Bull and lion.
237	Do.	938	2B′	40·86′	11′ 0″	King seated and Hermes.
238	Do.	2665	2A′	21·85′	11′ 0″	Goddess *Lakshmī* and humped bull.
239	Do.	2397	3A′	25·91′	11′ 2″	King seated and Hermes.
240	Do.	1047	D′ west	60·116′	11′ 3″	Mounted king and Zeus standing.

A list of coins found at Sirkap during 1929-30 showing their find-spots and types—contd.

Serial No.	King.	No.	Block.	Square.	B. S.	Type.
241	Azes	2387	3A′	27·91′	11′ 4″	Mounted king and Zeus holding Nike.
242	Do.	1810	2B′	30·86′	11′ 4″	King seated and Hermes.
243	Do.	1810	2B′	30·86′	11′ 4″	Ditto.
244	Do.	1606	C′	48·86′	11′ 6″	Bull and elephant.
245	Do.	2425	2A′	18·92′	11′ 6″	King seated and Hermes.
246	Do.	2425	2A′	18·92′	11′ 6″	Enthroned Demeter and Hermes.
247	Do.	2425	2A′	18·92′	11′ 6″	Ditto.
248	Do.	2425	2A′	18·92′	11′ 6″	King seated and Hermes.
249	Do.	2425	2A′	18·92′	11′ 6″	Enthroned Demeter and Hermes.
250	Do.	2425	2A′	18·92′	11′ 6″	Ditto.
251	Do.	2425	2A′	18·92′	11′ 6″	King seated and Hermes.
252	Do.	1835	2B′	36·92′	11′ 6″	Ditto.
253	Do.	1872	2B′	34·86′	11′ 6″	Mounted king and Zeus standing.
254	Do.	2460	3′	12·99′	11′ 8″	Enthroned Demeter and Hermes.
255	Do.	2460	3′	12·99′	11′ 8″	Elephant and Bull.
256	Do.	1873	2B′	35·90′	11′ 9″	King seated and Hermes.
257	Do.	2878	C′	45·94′	11′ 10″	Ditto.
258	Do.	1416	D′ west	55·112′	11′ 10″	Ditto.
259	Do.	2720	C′	55·90′	12′ 0″	Ditto.
260	Do.	1439	D′ west	58·108′	12′ 0″	Ditto.
261	Do.	1439	D′ west	58·108′	12′ 0″	Ditto.
262	Do.	1439	D′ west	58·108′	12′ 0″	Ditto.
263	Do.	1951	2B′	40·93′	12′ 0″	Ditto.
264	Do.	1829	2B′	39·87′	12′ 0″	Ditto.
265	Do.	1829	2B′	39·87′	12′ 0″	Enthroned Demeter and Hermes.
266	Do.	2717	C′	52·90′	12′ 0″	King seated and Hermes.
267	Do.	1924	2B′	31·90′	12′ 0″	Enthroned Demeter and Hermes.
268	Do.	2872	C′	42·92′	12′ 2″	King seated and Hermes.
269	Do.	2847	C′	45·88′	12′ 4″	Ditto.
270	Do.	2552	3A′	24·89′	12′ 4″	Mounted king and Bull.
271	Do.	2883	C′	45·93′	12′ 4″	King seated and Hermes.
272	Do.	2579	3′	12·99′	12′ 4″	Ditto.
273	Do.	2579	3′	12·99′	12′ 4″	Ditto.
274	Do.	1908	2B′	39·93′	12′ 5″	Ditto.
275	Do.	1890	2B′	31·86′	12′ 5″	Elephant and Bull.
276	Do.	1862	2B′	35·86′	12′ 5″	Mounted king and Zeus standing.

A list of coins found at Sirkap during 1929-30, showing their find-spots and types—contd.

Serial No.	King.	No.	Block.	Square.	B. S.	Type.
277	Azes	1862	2B′	35·86′	12′ 5″	Mounted king and Zeus standing.
278	Do.	1862	2B′	35·86′	12′ 5″	Mounted king and Zeus Nikephoros.
279	Do.	1862	2B′	35·86′	12′ 5″	Ditto.
280	Do.	1862	2B′	35·86′	12′ 5″	Ditto.
281	Do.	1862	2B′	35·86′	12′ 6″	Ditto.
282	Do.	1862	2B′	35·86′	12′ 6″	Mounted king and Pallas.
283	Do.	1862	2B′	35·86′	12′ 6″	Ditto.
284	Do.	1862	2B′	35·86′	12′ 6″	Ditto.
285	Do.	1862	2B′	35·86′	12′ 6″	Ditto.
286	Do.	1862	2B′	35·86′	12′ 6″	Elephant and bull.
287	Do.	2583	3A′	28·89′	12′ 6″	Ditto.
288	Do.	2892	C′	45·90′	12′ 6″	King seated and Hermes.
289	Do.	2892	C′	45·90′	12′ 6″	Ditto.
290	Do.	2912	C′	42·90′	12′ 6″	Ditto.
291	Do.	1900	2B′	35·89′	12′ 6″	Ditto.
292	Do.	1900	2B′	35·89′	12′ 6″	Enthroned Demeter and Hermes.
293	Do.	2850	C′	45·89′	12′ 6″	Mounted king and Zeus Nikephoros.
294	Do.	2785	C′	51·87′	12′ 8″	Ditto.
295	Do.	2569	2A′	20·92′	12′ 9″	King seated and Hermes.
296	Do.	2488	3A′	25·90′	12′ 9″	Ditto.
297	Do.	2957	C′	43·94′	13′ 0″	Ditto.
298	Do.	2445	3A′	27·92′	13′ 2″	Elephant and bull.
299	Do.	1847	2B′	30·93′	13′ 2″	Bull and lion.
300	Do.	2654	3A′	23·89′	13′ 4″	King seated and Hermes.
301	Do.	2799	C′	47·88′	13′ 10″	Elephant and bull.
302	Do.	2759	3′	14·96′	14′ 0″	King seated and Hermes.
303	Do.	2697	3′	12·96′	14′ 4″	Mounted king and bull.
304	Do.	2448	2B′	39·91′	14′ 4″	Mounted king and Zeus standing.
305	Do.	2448	2B′	39·91′	14′ 4″	King seated and Hermes.
306	Do.	2680	3′	11·97′	14′ 6″	Ditto.
307	Do.	2164	2B′	39·94′	15′ 6″	Mounted king and Zeus standing.
308	Do.	2474	2B′	40·89′	15′ 6″	King seated and Hermes.
309	Do.	1993	2B′	35·88′	15′ 6″	Elephant and Bull.
310	Do.	2704	2B′	37·91′	16′ 0″	King seated and Hermes.
311	Azes with Aspavarma	2372	F′	93·78′	3′ 0″	Mounted king and Pallas.
312	Ditto	2314	F′	98·86′	4′ 0″	Ditto.

A list of coins found at Sirkap during 1929-30, showing their find-spots and types—contd.

Serial No.	King.	No.	Block.	Square.	B. S.		Type.
313	Azes with Aspavarma	395	C′	51·87′	6′	9″	Mounted king and Pallas.
314	Vonones with Spalahora	175	C′	36·92′	5′	9″	Herakles and Pallas.
315	Ditto	2806	C′	42·86′	13′	0″	Ditto.
316	Ditto	2610	3′	11·96′	14′	6″	Ditto.
317	Ditto	2641	2B′	30·91′	15′	6″	Ditto.
318	Ditto	2968	2B′	37·91′	19′	0″	Ditto.
319	Spalyris with Spalagadames.	2691	3′	14·97′	14′	3″	Mounted king and Herakles.
320	Gondophares	3	2B′	31·86′	3′	9″	Mounted king and Zeus standing.
321	Do.	2251	G′	102·83′	4′	0″	Ditto.
322	Do.	2353	F′	98·86′	4′	0″	Ditto.
323	Do.	2340	G′	109·85′	4′	3″	Crude bust of king and Pallas.
324	Do.	2088	D	61·43′	4′	6″	Mounted king and Zeus.
325	Do.	147	2B′	37·92′	5′	0″	Head of king and Pallas.
326	Do.	2066	C	48·46′	5′	3″	Mounted king and Zeus.
327	Do.	30	3A′	25·88′	5′	6″	Ditto.
328	Do.	380	C′	52·89′	6′	0″	Ditto.
329	Do.	1741	D′	65·87′	6′	0″	Ditto.
330	Do.	178	3A′	25·88′	6′	0″	Ditto.
331	Do.	53	3′	14·99′	6′	8″	Ditto.
332	Do.	395	C′	51·87′	6′	9″	Ditto.
333	Do.	649	D′ west	61·104′	7′	0″	Bearded bust of king and Pallas.
334	Do.	1250	D′ west	61·100′	7′	5″	Mounted king and Zeus standing.
335	Do.	1250	D′ west	61·100′	7′	5″	Ditto.
336	Do.	1246	D′ west	56·102′	7′	6″	Ditto.
337	Do.	248	2B′	39·87′	7′	8″	Ditto.
338	Do.	1192	D′ west	58·100′	8′	2″	Ditto.
339	Do.	1538	D′ west	59·110′	8′	6″	Ditto.
340	Do.	469	2B′	40·87′	8′	6″	Bearded bust of king and winged Nike.
341	Do.	1334	3′	11·99′	9′	6″	Bust of king and Pallas.
342	Do.	743	2B′	40·88′	9′	8″	Ditto.
343	Do.	1645	D′ west	61·110′	9′	9″	Ditto.
344	Abdagases	300	D′ west	58·105′	6′	3″	Mounted king and Zeus.
345	Do.	165	3A′	23·92′	6′	6″	Ditto.
346	Heraios (Miaos)	648	D′ west	61·111′	5′	6″	Bust of king and king on horseback.
347	Rajuvula	174	2B′	31·87′	6′	3″	Lion and Herakles.

A list of coins found at Sirkap during 1929-30, showing their find-spots and types—contd.

Serial No.	King.	No.	Block.	Square.	B. S.	Type.
348	Rajuvula . . .	195	2B′	31·87′	7′ 6″	Lion and Herakles.
349	Do. . . .	193	2B′	31·87′	7′ 6″	Ditto.
350	Do. . . .	779	D′ west	65·106′	7′ 9″	Ditto.
351	Do. . . .	713	D′ west	59·107′	8′ 4″	Ditto.
352	Do. . . .	853	3A′	27·92′	8′ 7″	Ditto.
353	Do. . . .	511	2B′	31·89′	8′ 9″	Ditto.
354	Do. . . .	2720	C′	52·90′	12′ 0″	Ditto.
355	Hermaios with Kadphises	2363	H′	121·80′	2′ 0″	Bust of Hermaios and Herakles.
356	Ditto .	587	D′ west	55·114′	3′ 6″	Ditto.
357	Ditto .	1396	Street 2B′-C′	41·90′	5′ 4″	Ditto.
358	Ditto .	332	D′ west	58·107′	6′ 5″	Ditto.
359	Ditto .	1246	D′ west	56·102′	7′ 6″	Ditto.
360	Ditto .	1474	C′	42·90′	9′ 6″	Ditto.
361	Ditto .	1263	D′ west	55·103′	10′ 0″	Ditto.
362	Ditto .	1050	D′ west	60·117′	11′ 6″	Ditto.
363	Ditto .	2691	3′	14·97′	14′ 3″	Ditto.
364	Kadphises I . .	1987	D	55·43′	2′ 0″	A bust of Hermaios and Herakles.
365	Do. . . .	2222	F′	96·93′	2′ 0″	Ditto.
366	Do. . . .	2283	G′	105·88′	3′ 0″	Ditto.
367	Do. . . .	2211	G′	111·87′	3′ 0″	Ditto.
368	Do. . . .	2025	D	60 44′	3′ 0″	Ditto.
369	Do. . . .	105	3A′	28·91′	3′ 0″	Head of Augustus (?) and king seated.
370	Do. . . .	2237	G′	108·90′	3′ 4″	Ditto.
371	Do. . . .	2258	G′	103·83′	3′ 4″	Bust of Hermaios and Herakles.
372	Do. . . .	2350	G′	107 93′	3′ 6″	Ditto.
373	Do. . . .	2316	F′	92·94′	3′ 6″	Head of Augustus and king seated.
374	Do. . . .	2356	F′	100 91′	3′ 6″	Bust of Hermaios and Herakles.
375	Do. . . .	587	D′ west	55·114′	3′ 6″	Ditto.
376	Do. . . .	1508	D′	57·95′	3′ 8″	Ditto.
377	Do. . . .	2057	C	41·42′	4′ 0″	Ditto.
378	Do. . . .	2111	A	20·44′	4′ 0″	Ditto.
379	Do. . . .	2023	D	62·44′	4′ 0″	Ditto.
380	Do. . . .	2340	G′	109·85′	4′ 3″	Ditto.
381	Do. . . .	2340	G′	109 85′	4′ 3″	Ditto.
382	Do. . . .	2301	G′	109 85′	4′ 3″	Ditto.
383	Do. . . .	2301	G′	109·85′	4′ 3″	Ditto.

A list of coins found at Sirkap during 1929-30, showing their find-spots and types—contd.

Serial No.	King.	No.	Block.	Square.	B. S.	Type.
384	Kadphises . . .	1510	D′	60·94′	4′ 3″	Bust of Harmaios and Herakles.
385	Do. . . .	1575	D′	58·94′	4′ 4″	Ditto.
386	Do. . . .	1575	D′	58·94′	4′ 4″	Ditto.
387	Do. . . .	1581	D′	61·93′	4′ 4″	Head of Augustus and king seated.
388	Do. . . .	2083	D	62·45′	4′ 6″	Bust of Hermaios and Herakles.
389	Do. . . .	2275	F′	89·86′	4′ 6″	Ditto.
390	Do. . . .	321	C′	47·92′	4′ 6″	Head of Augustus and king seated.
391	Do. . . .	2047	D	50·43′	4′ 6″	Bust of Hermaios and Herakles.
392	Do. . . .	2	2B′	31·88′	4′ 10″	Buddha seated and Zeus standing.
393	Do. . . .	1613	D′	64·91′	4′ 10″	Head of Augustus and king seated.
394	Do. . . .	1502	D′	60·88′	5′ 0″	Bust of Hermaios and Herakles.
395	Do. . . .	125	3A′	26·93′	5′ 6″	Ditto.
396	Do. . .	125	3A′	26·93′	5′ 6″	Ditto.
397	Do. . . .	30	3A′	25·88′	5′ 6″	Ditto.
398	Do. . . .	650	D′ west	57·98′	5′ 6″	Ditto.
399	Do. . . .	160	2A′	18·92′	5′ 6″	Head of Augustus and king seated.
400	Do. . . .	1500	D′	55·86′	5′ 7″	Bust of Hermaios and Herakles.
401	Do. . . .	1500	D′	55·86′	5′ 7″	Head of Augustus and king seated.
402	Do. . . .	224	2B′	29·82′	5′ 9″	Ditto.
403	Do. . . .	406	C′	43·90′	5′ 10″	Ditto.
404	Do. . . .	1389	Street between 2B′ & C′	41·88′	6′ 0″	Bust of Hermaios and Herakles.
405	Do. . . .	599	D′ west	59·103′	6′ 0″	Ditto.
406	Do. . . .	1385	Street between 2B′ & C′	41·87′	6′ 0″	Head of Augustus and king seated.
407	Do. . . .	1431	C′	43·93′	6′ 0″	Ditto.
408	Do. . . .	112	2B′	33·89′	6′ 3″	Ditto.
409	Do. . . .	715	D′ west	56·113′	6′ 3″	Bust of Hermaios and Herakles.
410	Do. . . .	300	D′ west	58·105′	6′ 3″	Ditto.
411	Do. . . .	603	D′ west	61·104′	6′ 4″	Ditto.
412	Do. . . .	309	D′ west	57·105′	6′ 6″	Ditto.
413	Do. . . .	714	D′ west	62·109′	6′ 6″	Ditto.
414	Do. . . .	244	2B′	40·90′	6′ 9″	Head of Augustus and king seated.
415	Do. . . .	313	D′ west	58·100′	6′ 9″	Bust of Hermaios and Herakles.
416	Do. . . .	313	D′ west	58·100′	6′ 9″	Ditto.
417	Do. . . .	403	C′	46·90′	6′ 11″	Ditto.
418	Do. . . .	135	2B′	31·90′	7′ 0″	Ditto.

A list of coins found at Sirkap during 1929-30, showing their find-spots and types—contd.

Serial No.	King.	No.	Block.	Square.	B. S.	Type.
419	Kadphises	1434	Street between 2B′ & C′	41·92′	7′ 0″	Bust of Hermaios and Heraklcs.
420	Do.	1851	D′	61·92′	7′ 0″	Head of Augustus and king seated.
421	Do.	1250	D′ west	61·100′	7′ 5″	Bust of Hermaios and Heraklcs.
422	Do.	1428	C′	45·96′	7′ 6″	Head of Augustus and king seated.
423	Do.	1246	D′ west	56·102′	7′ 6″	Bust of Hermaios and Heraklcs.
424	Do.	344	D′ west	57·103′	7′ 6″	Ditto.
425	Do.	537	D′ west	59·104′	7′ 7″	Head of Augustus and king seated.
426	Do.	537	D′ west	59·104′	7′ 7″	Bust of Hermaios and Herakles.
427	Do.	369	D′ west	56·101′	7′ 8″	Ditto.
428	Do.	369	D′ west	56·101′	7′ 8″	Ditto.
429	Do.	369	D′ west	56·101′	7′ 8″	Ditto.
430	Do.	369	D′ west	56·101′	7′ 8″	Ditto.
431	Do.	369	D′ west	56·101′	7′ 8″	Ditto.
432	Do.	369	D′ west	56·101′	7′ 8″	Head of Augustns and king seated.
433	Do.	784	D′ west	61·109′	7′ 8″	Bust of Hermaios and Herakles.
434	Do.	1541	D′ west	61·110′	7′ 9″	Ditto.
435	Do.	451	C′	51·91′	7′ 9″	Ditto.
436	Do.	1293	D′ west	61·101′	8′ 0″	Ditto.
437	Do.	1341	D′ west	58·98′	8′ 2″	Ditto.
438	Do.	1524	C′	43·95′	8′ 4″	Ditto.
439	Do.	1539	D′ west	59·110′	8′ 6″	Ditto.
440	Do.	1045	D′ west	58·108′	8′ 7″	Head of Augustus and king seated.
441	Do.	1045	D′ west	58·108′	8′ 7″	Ditto.
442	Do.	529	2B′	33·86′	8′ 9″	Bust of Hermaios and Herakles.
443	Do.	480	2B′	34·87′	8′ 10″	Ditto.
444	Do.	1760	C′	52·93′	9′ 6″	Ditto.
445	Do.	1632	C′	42·93′	9′ 6″	Ditto.
446	Do.	1264	D′ west	57·104′	9′ 7″	Ditto.
447	Do.	1242	D′ west	55·112′	10′ 5″	Ditto.
448	Do.	1242	D′ west	55·112′	10′ 5″	Ditto.
449	Do.	1059	D′ west	64·114′	10′ 7″	Ditto.
450	Do.	1777	C′	50·92′	11′ 0″	Ditto.
451	Do.	3013	2B′	31·92′	16′ 9″	Ditto.
452	Uncertain.	2286	G′	109·89′	6′ 0″	Standing figure to front, right hand stretched and indistinct.
453	Do.	2857	C′	52·95′	12′ 3″	Tree in railing and indistinct.
454	Do.	2950	C′	45·93′	12′ 6″	Horse (?) standing to r. and indistinct.

LIST OF RARE COINS FOUND IN SIRKAP DURING THE YEAR 1929-30.

Metal and size.	Obverse.	Reverse.	Register No., Findstop, etc.	Remarks.
		Local Taxilan.		
1. Æ ·9″×·75″	Lion to left; *svastika* above; two arched *chaitya* in front.	Tusked elephant standing to r.; two arched *chaitya* above.	2768; 39·87′; 17′ 6″ b. s.	I. M. C. XX, 9.
2. Æ ·8″×·68″	Ditto	Ditto	2942; 28·89′; 20′ b. s.	Ditto.
3. Æ ·88″×·68″	Indistinct	Elephant standing to l.	3172; 10·89′; 17′ b. s.	I. M. C. Page 158.
		Agathokles.		
4. Æ ·73″×·63″	6-arched stupa with Kh. legend, *Akathu (kreyasa)*.	Tree inside a railing	3049; 11·101′; 15′ b. s.	P. M. C., II, 52. A. S. R. 12, Pl. XL, 5.
		Heliokles.		
5. Æ ·8″×·8″	Diad. bust of king to r. Gr. legend, ΒΑΣΙΛΕΩΣ ΔΙΚΑΙΟΥ ΗΛΙΟΚΛΕ-ΟΥΣ.	Elephant standing to l. Kh. legend, *Maharajasa dhramikasa Heliyakreyasa*. Mon. Σ.	2733; 50·91′; 11′ 8″ b. s.	P. M. C. III, 148.
6. Æ ·6″×·8″	Ditto	Ditto	2818; 28·89′; 15′ 4″ b. s.	Ditto.
7. Æ ·85″×·78″	Elephant walking to l. Gr. legend, [ΒΑΣΙΛ]-ΕΩΣ ΔΙΚΑΙΟΥ ΗΛΙΟΚΛΕΟΥΣ.	Indian humped bull to r. Kh. legend,.......*sa dhramikasa*.......	2866; 37·89′; 17′ 8″ b. s.	P. M. C. III, 149. But elephant on obv. walking to *r.*
		Lysias.		
8. Æ ·9″	Bust of bearded Herakles; r. club over shoulder (in poor condition).	Elephant walking to r. Kh. legend.....*(Lisi) kasa.*	2576; 11·98′; 13′ 7″ b. s.	B. M. C., VIII, 8. Round type is very rare. Only one coin of round type in Br. Museum and one in I. M.
		Antialkidas.		
9. Æ ·77″×·7″	Diad. bust of king to r. (Legends defaced on both sides).	Elephant standing to r. holding wreath in its upraised trunk.	2764; 38·87′; 16′ 9″ b. s.	P. M. C. IV, 212. One in P. M. and one in B. M.

LIST OF RARE COINS FOUND IN SIRKAP DURING THE YEAR 1929-30—*contd.*

Metal and size.	Obverse.	Reverse.	Register No., Findspot, etc.	REMARKS.
		Antialkidas—*contd.*		
10. Æ ·85″ .	Undraped bust of Zeus to r. Legend defaced.	Laureated piloi and palms of Dioskouroi. Kh. legend, ...*jayadharasa*........	2939 ; 38·88′ ; 19′ 6″ b. s. .	P. M. C. IV, 193.
		Archebios.		
11. Æ ·94″×·88″ .	Elephant to r. Gr. legend, ΒΑΣΙΛΕ [ΩΣ ΔΙΚΑΙΟΥΝ] ΙΚΗΦΟΡΟΥ ΑΡΧΕΒΙΟΥ.	Owl to r. *Maharajasa dhra[mika]sa jayadharasa Arkhebiyasa.*	3156 ; 14·87′ ; 14′ 4″ b. s. .	B. M. C. IX, 7.
		Apollodotos.		
12. Æ ·6″×·58″ .	Humped bull to r. in beaded square. No legend or monogram.	Tripod lebes in beaded square. No legend or monogram.	1447 ; 11·99′ ; 11′ b. s. .	P. M. C. P-45 No. 318-321.
		Strato I.		
13. Æ ·75″×·7″ .	Diad. bust of Herakles to r. Legend defaced.	Winged Nike standing to r. Kh. legend, *tratarasa Strata*[*sa*].	3073 ; 27·88′ ; 18′ 2″ b. s. .	P. M. C. Pl. V, 367.
		Menander.		
14. Æ ·95″×·94″ .	Helmeted bust of king to r. Gr. legend, ΒΑΣΙΛΕΩΣ ΣΩΤΗΡΟΣ ΜΕΝΑΝΔΡΟΥ.	Buckler with Gorgon's head. Kh. legend, *Maharajasa tratarasa Menadrasa.*	2194 ; 112·94′ ; 4′ b. s. .	P. M. C. VI, 496.
15. Æ ·8″×·74″ .	Helmeted bust of king to r. Gr. legend,...... ΣΩΤΗΡΟΣ.	Pallas to l. Kh. legend *Maharajasa*........	2576 ; 11·98′ ; 13′ 7″ b. s. .	P. M. C. VI, 506. (Poor).
		Epander.		
16. Æ ·84″×·76″ .	Winged Nike to r. Legend defaced.	Humped bull to r. Kh. legend, [*Ma*]*ha*[*rajasa*] *jayadharasa Epadra* [*sa*].	1750 58·90′ ; 6′ 6″ b. s. .	P. M. C. VI, 517.

LIST OF RARE COINS FOUND IN SIRKAP DURING THE YEAR 1929-30—*contd.*

Metal and size.	Obverse.	Reverse.	Register No., Findspot, etc.	REMARKS.
		Zoilos.		
17. Æ ·66″ . .	Elephant moving to r. in reel and pellet border. No legend.	Tripod lebes. Kh. legend,....*jhoilasa* to r. *sa*, to l. *ra*.	2950 ; 45·93′ ; 12′ 6″ b. s. .	P. M. C. VII, 546. Not in B. M. or I. M.
		Philoxenos.		
18. Æ ·8″×·8″ .	Demeter standing to l. rt. hand raised and cornucopia in l. Gr. legend, ΒΑΣΙΛΕΩΣ ΑΝΙΚΗΤΟΥ ΦΙΛΟ-ΕΝΟΥ.	Bull to r. Kh. legend ....*hatasa Phila*....	1626 ; 50·86′ ; 10′ 8″ b. s. .	P. M. C. VII, 590.
19. Æ ·75″×·75″ .	A city to l. ; in left hand, cornucopia ; right hand extended. Much defaced.	Indian bull. Much defaced.	2863 ; 31·91′ ; 17′ 4″ b. s. .	B. M. C. XIII, 10.
		Hippostratos.		
20. Æ 1·22″ .	Apollo to r. carrying arrow in both hands. Gr. legend, ΒΑΣΙΛ[ΕΩΣ ΣΩ] ΤΗΡΟΣ Iππο-ΣΤΡΑΤΟΥ.	Tripod lebes. Kh. legend :—*Mahara*[*jasa tra*]*tarasa Hipu*[*strata*] *sa*.	2898 ; 46·90′ ; 13′ b. s. .	P. M. C. VIII, 628.
		Telephos.		
21. AR ·7″ . .	Figure with serpent tails. Gr. legend, ΒΑΣΙΛΕΩΣ ΕΥΕΡΓΕΤΟΥ ΤΗΛΕΦΟΥ.	God and goddess standing to front. Kh. legend, *Maharajasa kalanakramasa Telephasa*.	2680 ; 11·97′ ; 14′ 6″ b. s. .	P. M. C. Supplementary Pl. IX, × AR Hemidrachm. Bodleian Library Collection. Two duplicates in the Berlin Museum.
		Maues.		
22. Æ ·91″×·94″ .	In square frame, elephant to r. holding wreath in uplifted trunk. Gr. legend, ΒΑΣΙΛΕΩΣ ΒΑΣΙΛΕΩΝ ΜΕΓ.	Humped bull to r. Legend illegible.	2784 ; 52·87′ ; 14′ b. s. .	P. M. C. X, 32.
23. Æ ·7″×·62″ .	Male deity striding to l. with flowing draperies, holding club in r. hand and long spear in l. Legend defaced.	Goddess to r. with flowing draperies (damaged).	350 ; 51·90′ ; 5′ 5″ b. s. .	P. M. C. X, 25.

LIST OF RARE COINS FOUND IN SIRKAP DURING THE YEAR 1929-30—*concld.*

Metal and size.	Obverse.	Reverse.	Register No., Findspot, etc.	Remarks.
		Maues—*contd.*		
24. Æ 1·0″ . .	Artemis radiate to r. with veil floating round her head. Legend defaced.	Humped bull to l. Kh. legend *rajati[rajasa maha]tasa Moasa.*	3167 ; 13·92′ ; 16′ 6″ b. s. .	P. M. C. X, 10.
25. Æ 1·1″ . .	Ditto .	Ditto .	2765 ; 37·87′ ; 17′ 6″ b. s. .	Ditto.
		Azes.		
26. Æ ·96″×·82″ .	King on horseback to r. holding couched lance. Gr. legend, ...ΩΝ ΜΕΓΑΛΟΥ.	Bull to r. Legend indistinct.	2552 ; 24·89′ ; 12′ 4″ b. s. .	P. M. C. XII, 292.
27. Æ ·95″ . .	Mounted king to r. Double struck.	Zeus Nikephoros. Double struck.	2173 ; 26·92′ ; 10′ b. s. .	....
28. Æ ·8″ . .	Goddess *Lakshmī* standing to front, with flower in raised r. hand. Legend illegible.	Humped bull to r. Kh. legend, ...*rajarajasa mahatasa*......	2665 ; 28·85′ ; 11′ b. s. .	P. M. C. XII, 303.
		Spalyris with Spalagadames.		
29. Æ ·87″×·83″ .	In square frame, king on horseback to r. Gr. legend...........ΟΣ ΔΙΚΑΙΟΥ [ΑΔ] ΕΛ-ΦΟΥ ΤΟΥ......	Naked Herakles, diademed sitting on rock, supporting club on knee. Kh. legend, (*Śpa*) *lahoraputrasa dhramiasa Spalagadamasa.*	2691 ; 14·97′ ; 14′ 3″ b. s. .	P. M. C. XIV, 386.
		Heraos (Miaos).		
30. Æ 1·18″ .	King on horseback to r. followed by flying figure of Nike with wreath. Gr. legend [ΤΥΡ]ΑΝΝΟΥΝΤΟΣ ΗΛΛ[.............	Half of coin only, with reel and pellet border.	648 ; 61·11′ ; 5′ 6″ b. s. .	P. M. C. XVI, 115.

As to the other minor antiquities found in Blocks 3′, 2A′, 2B′ and C′ it is difficult, in some cases, to be quite sure to which individual stratum they are to be referred. Thus an object found at a depth of say 7 feet from the surface might have belonged to either the 3rd or the 4th stratum, and an object found 11 feet below the surface might have belonged to either the 4th or the 5th stratum, and so on. Accordingly, I have contented myself with dividing them into three main categories only, the first comprising those which come from the Greek strata, the second those which were found in the dèbris between the Greek and Scytho-Parthian levels and might belong to either; and the third those of the Scytho-Parthian period. But it must be understood that even in these divisions there are some objects as to the age of which there is bound to be some doubt.

Objects from the 6th and 5th strata.

(93) Sk. 1894. Block 2B′. Sq. 35·89′. 14′ 6″ B. S. Circular plaque of fine grey schist stone. In centre, erotic scene. Man standing to left, wearing hooded mantle over back; woman kneeling on ground, wearing long *sāri* or *himation,* which her companion is removing. Spiral and bead pattern round rim. Lotus in relief on underside of plaque. Diam. $4\frac{5}{16}$″. Plate XV, 1.

(94) Sk. 2572. Block 3′. Sq. 15·98′. 12′ B. S. Circular plaque of grey schist divided into two registers. In upper register, a draped female figure lying on couch holding wine cup in left hand. At head of couch another draped figure seated on stool also holding cup in left hand; and behind the couch a third figure standing holding garland in raised right hand. Diam. $5\frac{5}{16}$″. Plate XV, 2.

(95) Sk. 2451. Block 2B′. Sq. 32·86′. 15′ 6″ B. S. Broken rim of a large dish of grey slate, decorated with incised concentric circles. Length $10\frac{1}{2}$″. Diam. of original dish about 16″. Of very fine workmanship, turned on lathe, as is also Sk. 2571.

(96) Sk. 2571. Block 2B′. Sq. 36·89′. 13′ B. S. Broken dish of grey slate with a central boss inside, surrounded by concentric circles. Rim missing. Diam. 8″.

(97) Sk. 3153. Block 2′. Sq. 15·93′. 16′ 6″ B. S. Half of steatite mould of two finger rings. Grey slate $2\frac{5}{8}$″×$1\frac{3}{4}$″×$\frac{1}{2}$″.

(98) Sk. 2480. Block 2B′. Sq. 34·86′. 15′ 6″ B. S. Fragment of an agate vessel with highly polished outer surface. Length $2\frac{1}{4}$″.

(99) Sk. 3022. Block 2A′. Sq. 19·87′. 16′ 6″ B. S. Fragment of disc of white porcelain-like stone, highly polished. Length $1\frac{3}{4}$″. Similar to specimens previously discovered on the Bhir Mound and in Sirkap and discussed at length in my Report 1920-21, pp. 21 and 45 *sq.*

(100) Sk. 2658. Block 2A′. Sq. 19·88′. 13′ 6″ B. S. Fragment of a glass disc bead decorated in relief on front. Thick white and blue patina. Diam. 15/16″.

(101) Sk. 1923. Block 2B′. Sq. 36·95′. 12′ 3″ B. S. One segmented bead of gold, hollow. Diam. 11/16″.

(102) Sk. 2479. Block 2B′. Sq. 36·86′. 15′ B. S. One plain spherical bead of gold, hollow. Diam. 3/16″.

(103) Sk. 2647. Block 3A′. Sq. 24·92′. 12′ 4″ B. S. Antimony case of bronze. Length 3⅛″. Cf. *A. S. R.*, 1914-15, Plate XXIV, 52.

(104) Sk. 2010-1. Block 2B′. Sq. 38·87′. 13′ 4″ B. S. Narrow-necked bottle of copper, with broad horizontal rim ; body damaged. Ht. 5½″. Plate XVI, 7.

(105) Sk. 2010-2. Lid (?) of a copper vessel. Diam. 3¼″.

(106) Sk. 1946. Block 2B′. Sq. 40·86′. 12′ B. S. Copper ornament consisting of ring and palmette ; traces of nail at back for attachment. Length 1″.

(107) Sk. 2917. Block C′. Sq. 45·94′. 12′ 4″ B. S. Fragment of a copper hair pin. On top, standing female figure with right hand raised to side of head. Length 2⅛″.

(108) Sk. 2628. Block 2B′. Sq. 39·87′. 14′ 9″ B. S. Copper ring handle with attachment in form of dog's or hyaena's head. Length 2¼″.

(109) Sk. 2754. Block 3′. Sq. 12·100′. 12′ 6″ B. S. Roughly cast bar of copper. Triangular in section. Length 10⅜″.

(110) Sk. 1878. Block 2B′. Sq. 34·90′. 12′ 7″ B. S. Ring tripod of iron. Legs detached. Diam. of ring 10¾″. Ht. 6¾″.

(111) Sk. 2813. Block C′. Sq. 52·88′. 12′ B. S. Head and shoulders of gorilla-like figure with mouth half open, flat nose, large ears, bald on top of head, but with long hair at sides ; neck thick and short. Traces of white paint on face, neck and shoulders. The modelling is much superior to anything of the kind found in the later Scytho-Parthian or Kushāṇa strata, the body and head are hollow, as in most Hellenistic statuettes, not solid as in Indian ones. Ht. 2¾″. Plate XIV, 1.

(112) Sk. 2693. Block 3A′. Sq. 28·93′. 13′ 6″ B. S. Terracotta head of a male figure. Wears moustache and cap, with coils of hair falling over ears. Somewhat like the head of shell in relief found in Sirkap in 1919-20. Cf. *A. S. R.*, 1919-20. Plate X, 27. Ht. 2⅛″. Plate XIV, 3.

(113) Sk. 2978. Block 3A′. Sq. 27·92′. 15′ 4″ B. S. Female head of terracotta with curly hair partly concealed beneath cap or veil. Ht. 1⅜″. Plate XIV, 5.

(114) Sk. 2526. Block 2B′. Sq. 32·90′. 14′ 6″ B. S. Crude female figure of terracotta, with ape's head and body decorated with punctured dots. Ht. 2⅝″.

(115) Sk. 2648. Block 3A′. Sq. 24·92′. 12′ 4″ B. S. Head of toy horse of terracotta. Bridle decorated with bosses and plume. Transverse hole through mouth for string. Length 3½″.

(116) Sk. 2763. Block 2B′. Sq. 35·89′. 16′ 9″ B. S. Terracotta head of a toy horse. Bridle decorated with bosses and plume. Transverse hole through mouth for string. Length 3½″.

(117) Sk. 3165. Block 2′. Sq. 13·92′. 16′ 6″ B. S. Terracotta toy bird. Transverse hole through breast for axle of wheels. Length 4⅜″.

(118) Sk. 3121. Block 2A'. Sq. 20·90'. 14' 4" B. S. Fragment of terracotta vase of grey clay burnt to red on surface and finished with thin wash. On convex outer face, forming shoulder of vase, two bands of figures in low relief with dog tooth border above and conventional egg and leaf patterns below. In upper band, pairs of dancing female figures alternating with single figures seated on chairs. In lower band, two warriors on horseback with lances in hand, while a third is standing in front of them holding a club or sword, and two others are leading their horses. Although very roughly executed, the stamped relief on this fragment and the more highly finished patterns on the specimen following call to mind the relief work on Samian and Arretine vases. Possibly, this is a local imitation of some Hellenistic ware of Western Asia which is unknown to us. Size $6\frac{1}{4}'' \times 5\frac{3}{8}''$. Plate XIV, 7.

(119) Sk. 3121-2. Fragment of terracotta vase with vine and other floral patterns stamped in low relief. Finely levigated red clay. Good workmanship. Size $2\frac{1}{2}'' \times 2''$. Plate XIV, 2.

(120) Sk. 3135. Block 3'. Sq. 11·98'. 17' B. S. Fragment of potsherd of reddish-grey clay with fine slip and black glossy paint resembling that on Greek black and red figured vases and undoubtedly Hellenistic. Length $1\frac{1}{4}''$. The black paint was probably composed of oxide of iron and manganese; it was finished with a coat of colourless varnish composed of saltpetre and soda.

(121) Sk. 2865. Block 2B'. Sq. 34·87'. 18' B. S. Fragment from rim of bowl, of grey clay finished with highly glazed black paint, as in preceding specimen. Length $1\frac{7}{8}''$.

(122) Sk. 1930. Block 2B'. Sq. 31·89'. 12' 2" B. S. Fragment of amphora of grey terracotta, shoulder relieved with incised concentric circlets and other patterns. Ht. $7\frac{1}{4}''$.

(123) Sk. 2695. Block 2A'. Sq. 19·86'. 12' 3" B. S. Narrow-necked earthenware jug. Rim, handle and base missing; coarse clay; decayed surface. Ht. $5\frac{1}{4}''$.

(124) Sk. 2996. Block 3A'. Sq. 22·88'. 14' 8" B. S. Narrow-necked earthenware vase of grey clay burnt to pinkish red on outside. Ht. $5\frac{1}{2}''$.

(125) Sk. 2465. Block 2B'. Sq. 31·88'. 15' B. S. Narrow-necked vessel (rather like modern *kūza*) with handle and spout, both of which are missing. Thin red slip. Ht. $5\frac{1}{4}''$.

(126) Sk. 3006. Block 2A'. Sq. 19·89'. 14' 6" B. S. Globular flask of earthenware. Neck missing; no foot. Ht. $3\frac{1}{8}''$.

(127) 1895. Block 2B'. Sq. 35·89'. 12' 6" B. S. Earthenware saucer; rim decorated with black linear patterns. Diam. $3\frac{5}{8}''$.

(128) Sk. 2941. Block 2B'. Sq. 37·93'. 19' B. S. A pair of earthenware saucers united at sides. One broken. Diam. $3\frac{1}{4}''$.

(129) Sk. 2911. Block C'. Sq. 42·90'. 12' 6" B. S. Earthenware bowl of coarse clay. On one side, spout with pair of eyes above; on other, handle in form of two ears. Ribbed and incised bands around neck and shoulder. Diam. 13".

(130) Sk. 2643. Block 2B′. Sq. 31·85′. 12′ 7″ B. S. Wide-mouthed large earthenware basin. Bottom missing. Diam. 28″. Ht. 21½″.

(131) Sk. 1932. Block 2B′. Sq. 33·87′. 13′ 1″ B. S. Earthenware store-jar with conical bottom and provided with four projecting lugs around shoulder. The type is different from that of later specimens. Ht. 2′ 8″.

(132) Sk. 1933. Block 2B′. Sq. 35·88′. 12′ 1″ B. S. Egg-shaped store jar of earthenware. Ht. 3′ 8″.

(133) Sk. 2192. Block 2B′. Sq. 30·89′. 15′ 3″ B. S. Large earthenware jar. Ht. 3′ 9½″.

(134) Sk. 1991. Block 2B′. Sq. 31·87′. 14′ 9″ B. S. Dome-shaped lid (?) of earthenware. Ht. 3⅛″.

(135) Sk. 2947. Block C′. Sq. 45·93′. 12′ 6″ B. S. Two fragments of a shallow dish of grey clay unevenly burnt. Inside, incised lotus, etc., in centre : running scroll around rim. Traces of red paint on the rim. Diam. 9½″.

(136) Sk. 1896. Block 2B′. Sq. 35·89′. 12′ 6″ B. S. Earthenware lid with conical top ; thin reddish wash. Ht. 2⅛″.

(137) Sk. 1898. Block 2B′. Sq. 35·89′. 12′ 6″ B. S. Earthenware lamp provided with three places for wicks and a water reservoir underneath for keeping the oil cool. Through the centre of the reservoir and projecting above the lamp pan is a hollow tube evidently for fixing the lamp on to a stand. This is the only lamp yet found at Taxila, with a water reservoir. Ht. 3⅛″. Plate XVI, 5.

(138) Sk. 3178. Block 2′. Sq. 15·88′. 15′ B. S. Fragment of a quadruple "Offering tank" of terracotta, with circular hut surmounting the centre, where the partitions between the four sections cross one another. Remains of a figure to side of hut doorway. Length 8½″.

(139) Sk. 2453. Block 2B′. Sq. 32·86′. 15′ 6″ B. S. Flesh rubber of terracotta. Both sides incised with zigzag lines. Size 4″×2¾″×¾″.

(140) Sk. 2620. Block 2B′. Sq. 35·85′. 16′ B. S. Terracotta whistle resembling in shape a sling bullet and pierced with three holes. Length 2½″.

(141) Sk. 2964. Block C′. Sq. 44·93′. 12′ 9″ B. S. Whistle of grey clay with three holes, oblong and collared. Length 1½″.

(142) Sk. 2612. Block 3′. Sq. 11·97′. 14′ B. S. Vase-shaped earthen rattle of terracotta with hole for suspension. Length 2⅝″.

(143) Sk. 3186. Block 2A′. Sq. 19·86′. 12′ 8″ B. S. Vase-shaped rattle of terracotta, similar to preceding one. Length 2¾″.

(144) Sk. 3166. Block 2′. Sq. 13·92′. 15′ 6″ B. S. Oblong playing die of terracotta, with numbers 1, 2, 3, 4 punctured consecutively on the four sides. Length 2½″.

(145) Sk. 3207. Block 2′. Sq. 12·89′. 15′ B. S. Terracotta ball with incised geometrical patterns and 7 holes irregularly disposed round the body. Diam. 1½″.

(146) Sk. 2621. Block 2B′. Sq. 35·85′. 16′ B. S. Ivory hair-pin with comb pattern head. Length 4⅞″.

(147) Sk. 2761. Block 2B′. Sq. 35·89′. 16′ 9″ B. S. Spoon of bone, with circular shallow scoop. Handle damaged. Length $4\frac{1}{4}$″.

(148) Sk. 2711. Block C′. Sq. 46·88′. 13′ B. S. Conch shell. Length $7\frac{1}{8}$″.

(149) Sk. 2489. Block 3A′. Sq. 25·90′. 12′ 9″ B. S. Part of stag's antler with two tines. Length $7\frac{1}{4}$″. Possibly used for medicine.

Objects from the 4th and 5th strata which may be either of the Greek or of the Scytho-Parthian Period.

(150) Sk. 2455. Block 3′. Sq. 12·99′. 11′ 8″ B. S. Circular plaque of pale grey schist divided into two registers. In upper, a hippocamp with scaly body, long tail and wings. In lower, and around rim, lotus patterns. Part of rim missing. Diam. $3\frac{1}{2}$″. Plate XV, 3.

(151) Sk. 1417. Block 3′. Sq. 13·100′. 11′ B. S. Sandstone mortar (?) with slight groove outside the body. Ht. $14\frac{1}{4}$″.

(152) Sk. 1867. Block 2B′. Sq. 37·89′. 11′ 4″ B. S. Flat rectangular hone of chocolate-coloured stone with pierced projection at one end. Length $3\frac{5}{8}$″.

(153) Sk. 1614-1. Block C′. Sq. 44·96′. 9′ 6″ B. S. Copper lamp-stand (?) with hollow cup-like top. The lower part of the stand is circular with 5 raised bands round the body and perforated open-work at bottom. Ht. $8\frac{3}{4}$″. Plate XVI, 8. With this were also found the three following objects.

(154) Sk. 1614-2. Standard cup with lid, which was originally pivotted on to rim by means of a nail. Ht. $5\frac{7}{8}$″. Plate XVI, 9.

(155) Sk. 1614-3. Copper casket without lid; bottom made in separate piece and soldered on. Ht. $3\frac{1}{8}$″.

(156) Sk. 1614-4. Copper spoon with round shallow scoop; handle damaged. Length $3\frac{3}{4}$″.

(157) Sk. 471. Block 2B′. Sq. 31·90′. 9′ 5″ B. S. Egg-shaped spoon of copper with goose-headed handle. Length 8″.

(158) Sk. 574. Block 2B′. Sq. 31·89′. 10′ B. S. Blow pipe of copper with projecting flange. Damaged. Length $3\frac{3}{4}$″. *Cf. A. S. R.*, 1924-25, page 49.

(159) Sk. 2184. Block 2A′. Sq. 18·93′. 9′ 4″ B. S. Copper needle. Length $2\frac{3}{8}$″.

(160) Sk. 585. Block 2B′. Sq. 37·89′. 9′ 3″ B. S. Bronze handle of a vessel. Diam. 3″.

(161) Sk. 793. Block 2B′. Sq. 35·89′. 10′ 10″ B. S. Boss of copper rivetted to iron backing. The latter is provided with three staples. Purpose uncertain. Diam. 3″.

(162) Sk. 1823. Block 2B′. Sq. 34·87′. 11′ 5″ B. S. Iron hoe. Length $8\frac{1}{4}$″.

(163) a. Sk. 731. Block 2B′. Sq. 38·90′. 10′ 9″ B. S. Iron weight of truncated bi-cone shape. The ring once attached for suspension is missing. Ht. $2\frac{1}{2}$″.

(164) Sk. 575. Block 2B′. Sq. 31·89′. 10′ B. S. Iron scalepan, originally provided with three small rings for suspension, of which one only survives. Diam. $3\frac{5}{8}''$.

(165) Sk. 2541. Block 3A′. Sq. 27·91′. 11′ 9″ B. S. Terracotta figure in the round, seated cross-legged. Wears long-sleeved coat with band at waist. Traces of white paint on coat. Head missing. Ht. 3″. Plate XIV, 8.

(166) Sk. 2737. Block C′. Sq. 50·91′. 11′ 8″ B. S. Terracotta head of a toy horse. Bridle decorated with bosses and plume. Red clay. Transverse hole in mouth for string. Length $2\frac{5}{8}''$.

(167) Sk. 2430. Block 3A′. Sq. 22·91′. 10′ B. S. Head of a toy horse of terracotta. Bridle adorned with bosses and plume. Length $2\frac{3}{8}''$.

(168) Sk. 942. Block 2B′. Sq. 40·86′. 11′ B. S. Rattle of terracotta in form of bird. Ht. $2\frac{7}{8}''$.

(169) Sk. 656. Block 2B′. Sq. 32·90′. 9′ 6″ B. S. Broken bell-shaped vase with two handles. Red slip, with designs (dog-tooth, swags, birds, etc.) in black. Probably local copy of Hellenistic vase. Diam. $6\frac{3}{4}''$.

(170) Sk. 2484. Block 3A′. Sq. 28·89′. 11′ B. S. Small circular water bottle of earthenware provided with two pierced lugs on sides for suspension. The body on either side is decorated with stars and other simple devices in relief. Neck damaged. Ht. $3\frac{3}{8}''$. Plate XVI, 10.

(171) Sk. 2422. Block 2A′. Sq. 18·90′. 10′ 6″ B. S. Narrow-necked oil flask (?) of grey clay painted black. Handle at side and neck missing. Ht. $4\frac{3}{4}''$. Plate XVI, 6.

(172) Sk. 2798. Block C′. Sq. 47·91′. 11′ 10″ B. S. Narrow-necked earthenware flask. Ht. 5″.

(173) Sk. 545. Block 2B′. Sq. 39·85′. 9′ 10″ B. S. Goblet of red earthenware. Foot missing. Ht. $6\frac{3}{4}''$.

(174) Sk. 1821. Block 2B′. Sq. 32·87′. 11′ 7″ B. S. Part of crucible, lined thickly with burnt sandy clay and copper. Diam. $6\frac{5}{8}''$.

(175) Sk. 1658. Block C′. Sq. 46·88′. 10′ 7″ B. S. Oblong playing-die of ivory with numbers 1, 2, 3 and 4 incised in small circlets on 4 consecutive sides. Length $3\frac{5}{8}''$.

(176) Sk. 2556. Block 3A′. Sq. 23·87′. 11′ 6″ B. S. Ivory hair pin with head in form of a cock. Length $3\frac{1}{2}''$.

Objects of the Scytho-Parthian Period from the 2nd, 3rd and 4th strata.

(177) Sk. 1206. Block 2A′. Sq. 18·93′. 8′ 10″ B. S. Standing figure of female in the round; of grey slate. Wears bracelets, armlets, torque and girdle round hips with two bands across front of body knotted together above the navel. Curls of hair fall over both shoulders, and two long plaits down the back. It appears to have served as a small Caryatid. A somewhat similar figure, but not quite so stiff, was found in Sirkap in 1919-20. *Cf. A. S. R.*, 1919-20, Plate IX, 1 and 2. Ht. $7\frac{1}{4}''$. Plate XVI, 1 and 2.

(178) Sk. 394. Block C′. Sq. 51·87′. 6′ 9″ B. S. Circular soapstone plaque with winged monster in upper register on lotus background. Lotus designs in lower register and on rim. Diam. $4\frac{7}{8}$. Plate XV, 4.

(179) Sk. 306. Block C′. Sq. 44·92′. 3′ B. S. Circular plaque of grey schist. In upper register, female rider seated sideways on hippo-griff. Rim decorated with incised cable design. Lower part damaged. Diam. $5\frac{7}{16}$″. Plate XV, 6.

(180) Sk. 237. Block 2B′. Sq. 39·94′. 7′ B. S. Circular seal of fine grey stone with shallow pierced boss at back. On face *svastika* and caduceus (?) with short illegible inscription at side. Diam. $\frac{13}{16}$″. Plate XVII, 5.

(181) Sk. 307. Block C′. Sq. 52·95′. 4′ B. S. Chalcedony bead in form of lion. Length $\frac{1}{2}$″.

(182) Sk. 1173. 3. Sq. 11·100′. 8′ 4″ B. S. Triangular banded agate set in copper handle. Probably a polisher. Part of handle missing. Length 1″.

(183) Sk. 25. Block 3A′. Sq. 27·89′. 5′ 9″ B. S. Lenticular disc of banded agate with polished convex surface. Diam. $1\frac{3}{4}$″.

(184) Sk. 26. Block 3A′. Sq. 27·89′. 5′ 9″ B. S. Lenticular disc of crystal, slightly convex on either face and thinned to one side. Diam. $1\frac{1}{4}$″.

(185) Sk. 132. Block 3A′. Sq. 27·91′. 5′ B. S. Lenticular disc of banded agate ; one face convex and polished. Diam. $1\frac{5}{8}$″.

(186) Sk. 190. Block 3A′. Sq. 25·88′. 6′ 6″ B. S. Goldsmith's polisher of brown agate. Length $2\frac{3}{4}$″.

(187) Sk. 1163. Block 2A′. Sq. 19·94′. 8′ 5″ B. S. Neolithic celt of greyish-white chalcedony (?). Length $3\frac{1}{4}$″.

(188) Sk. 770. Block 3A′. Sq. 22·90′. 7′ 4″ B. S. Pebble of white stone with a small depression on either side. Probably the socket stone of a potter's wheel. Length $2\frac{7}{8}$″

(189) Sk. 199. Block 2B′. Sq. 32·89′. 7′ B. S. Handle of granite with three ribbed bands at one end. Length $4\frac{1}{8}$″.

(190) Sk. 891. Block 3A′. Sq. 27·88′. 8′ B. S. Metal worker's mould of brown sandstone, $3\frac{3}{4}$″×$3\frac{1}{4}$″×$\frac{7}{8}$″ with crescent, star and other patterns sunk in surface.

(191) Sk. 1. Block 2B′. Sq. 32·86′. 2′ 9″ B. S. Gold bar weighing 2,258 grains (Tolas $12\frac{5}{8}$). Size $2\frac{15}{16}$″×$\frac{9}{16}$″×$\frac{3}{8}$″. Another gold bar previously found at the same site weighed $6694\frac{1}{2}$ grains, and another hemispherical solid lump discovered during 1928-29 weighed $2198\frac{1}{2}$ grains.

(192) Sk. 24. Block 3A′. Sq. 27·90′. 5′ 10″ B. S. Group of copper and bronze articles found together in one spot. A similar hoard was discovered in Sirkap in 1919-20. *Cf. A. S. R.*, 1919-20, Plate X and p. 19 (Sk. 790). The articles, which are illustrated in Plate XVII, 6-72, are doubtless from a coppersmith's shop and comprise a large variety of small ornaments such as beads for necklaces, pendants, earrings, and other pieces which may have been used for decorative inlay. Among them may be noticed in particular the palmettes and acanthus of Nos. 26-28 and 42, the twin dolphins facing one another in Nos. 60 and 61, the horned *kīrttimukha* head of No. 69 and the leaf and tendril design of No. 72.

(193) Sk. 59. Sq. 10·96′. 6′ 8″ B. S. Bronze statue in round of a standing male figure. Legs, from knees downward, missing. Wears cap, ear pendants (?) and necklace; holds staff in right hand; left hand rests on hip. Girdle round hips tied in front. Cast metal. Crude workmanship. Ht. $3\frac{1}{2}$″.

(194) Sk. 61. 3′. Sq. 12·99′. 7′ 3″ B. S. Square copper plate with quadruple *svastika* pattern in relief. $2\frac{5}{16}$″ square$\times\frac{1}{8}$″.

(195) Sk. 1286. 3′. Sq. 15·97. 8′ 8″ B. S. Fragment of a sidepiece of a horse's bridle, provided with two holes for attachment of bit. Copper. Length $3\frac{1}{4}$″.

(196) Sk. 1172. 3′. Sq. 11·100′. 8′ 4″ B. S. Crude "bucranium" charm made of pair of animal's teeth united by band of copper. Length $1\frac{7}{16}$″.

(197) Sk. 1035. Block 3A′. Sq. 25·93′. 6′ 4″ B. S. Copper instrument with *nandipada* handle. *Cf. A. S. R.*, 1914-15, Plate XXIV, 30. Length 8″.

(198) Sk. 205. Block 2B′. Sq. 37·88′. 7′ B. S. Bell-shaped pendant (?) of open work copper. Ht. 1″.

(199) Sk. 328. Block C′. Sq. 48·90′. 5′ 6″ B. S. Rectangular boss of copper with winged dragon in centre. The border is decorated with a floral pattern in relief. $1\frac{1}{8}$″$\times\frac{7}{8}$″. Plate XVII, 3.

(200) Sk. 954. Block 3A′. Sq. 23·93′. 8′ 1″ B. S. Square anvil head (?) of iron with pointed legs, one of which is missing. $2\frac{7}{8}$″ square$\times1\frac{5}{8}$″.

(201) Sk. 1235. 3′. Sq. 14·96′. 8′ 6″ B. S. Square terracotta hut with pitched roof and four steps in front. Originally attached to side of an "offerings tank." *Cf. A. S. R.*, 1915-16, Plate VIII, *a*. Ht. $4\frac{3}{4}$″..

(202) Sk. 47. Block 2A′. Sq. 19·92′. 5′ 4″ B. S. Terracotta inkpot round and carinated, with cable pattern around shoulder. Ears of rim damaged. Ht. 2″.

(203) Sk. 1387. Street between 2B′ and C′. Sq. 41·87′. 6′ B. S. Round earthenware inkpot with two holes near mouth for suspension. Ht. $2\frac{1}{8}$″.

(204) Sk. 96. Block 2A′. Sq. 18·93′. 5′ B. S. Square clay tray containing five compartments. Four holes at corners for suspension. Much blackened by burning. $1\frac{3}{4}$″ square$\times\frac{3}{4}$″.

(205) Sk. 16. Block 2A′. Sq. 19·89′. 4′ 10″ B. S. Miniature terracotta *gharā* with two holes in neck for suspension. Ht. $2\frac{3}{4}$″.

(206) Sk. 85. Block 2A′. Sq. 20·90′. 5′ B. S. Terracotta lid (?) with handle in centre; signs of burning, as if it may have served as a shallow lamp. Diam. $2\frac{3}{8}$″.

(207) Sk. 1011. Block 2A′. Sq. 20·90′. 7′ 4″ B. S. Terracotta drain pipe (?) with narrow end slightly splayed. Length $14\frac{3}{8}$″. Diam. of the wider end $13\frac{3}{4}$″ and of narrower end $11\frac{5}{8}$″.

(208) Sk. 31. Block 3A′. Sq. 24·90′. 5′ 6″ B. S. 2 pairs of miniature earthenware vases joined together, one slightly smaller than the other. Ht. 3″ and $3\frac{7}{8}$″ respectively.

(209) Sk. 1652. Street between 3A′ and 2B′. Sq. 29·89′. 8′ 9″ B. S. Fragment of blue glass vessel with floral design in white relief. Length $2\frac{1}{8}$″.

EXCAVATIONS AT MOHENJO-DARO.

By Mr. E. J. H. Mackay.

During the season 1929-30, throughout with the able assistance of Mr. H. L. Srivastava, Assistant Superintendent, Archæological Survey, a large area of the site of Mohenjo-daro, comprising blocks 7 to 11 in the G section of the Dk. area,[1] was uniformly excavated down to the Intermediate level (16 feet to 18 feet below datum).[2] The main street of the area, seen on the east of the plan published in last year's report was cleared to a depth below the Intermediate III level and is perhaps the most interesting feature of the site (Plate XXI). This was certainly one of the chief streets of the city and we have been able to trace it over one-third of a mile southwards from the excavated portion. Its average width of 32 feet may not seem impressive in these days of spacious avenues and roads, but it is a remarkable feature in a congested city of some 5,000 years ago and one which well deserves the interest taken in it by visitors.

It was at first our intention to explore the lower levels that were reached last season; but unusual rains[3] in the summer and the high water-level caused by abnormal river-floods forced us to postpone this work to another season and to concentrate instead on the blocks mentioned above whose uppermost levels only have so far been cleared.

Block 6 has been left untouched, both to indicate the original height of the mound and to demonstrate the quality of the brickwork of the Late period. The narrow street between this block and block 8 to the west has been cleared to a considerably lower level, and Plate XXII, fig. *d*, shows the arrangement for its drainage in the Late III period. It has now been excavated down to well below the Intermediate III level when no means of drainage appear to have existed. It would have been better to have included this Late III drain in the plan of last season's work, but owing to its level[4] we were at the time under the impression that it belonged to the Intermediate I period, to which a badly mutilated drain beneath it has had since to be assigned. The photograph of the upper drain (Plate XXII, *d*) shows how carefully laid and covered these channels were, the masonry being entirely of burnt brick and mud mortar. The feeder drains seen to the left of the main drain in the photograph served to convey water from various rooms in block 6. The width of the lane at drain-level is 6 feet 10 inches.

Main Street.

At the Intermediate III level, the width of the main street (Plate XXI, *e* & *f*) is somewhat less than it is at the Late II and I levels owing to the slope, or batter, of the walls on either side. At the first mentioned level the section of the street that has been excavated is 30 feet 4 inches wide at its northern end,

[1] *See* plan in *A. S. R.*, 1928-29, Pl. XXIII.

[2] For an account of the levels of each period and phase *see A. S. R.*, 1928-29, p. 68 *seq.*

[3] Between nine and ten inches fell in a week, whereas the average for the year is only four inches.

[4] The channel which averages 9 inches wide by 1 foot 2 inches deep has a slope, towards the north, of 2·5" in a length of 89 feet. The base of its channel at the southern end is at the level 13·7 feet.

whereas at its southern end it is over 36 feet wide in places. The width of the street at Late II level is 31 feet 10 inches. The difference of 1 foot 6 inches is due to the slope of the walls on either side. Plate XXI shows various stages of its excavation and indicates how important a thoroughfare it was.

Entrances to Street.

In the section cleared, the main street was entered from the west by two narrow lanes which were in use throughout the Late and Intermediate periods. On the eastern side only one definite opening, some 2 feet 10 inches wide, has been found in the long continuous façade. We do not know whether this was the entrance of a lane or the doorway of a house (Plate XXII, *b*). The former is more probable, as it was unusual for the houses of Mohenjo-daro to be entered from the main streets. The entrances to the houses are found in narrow lanes which are at right angles, or parallel to the main street. Whatever it may be, this opening into the street from the east was in use only during the Intermediate period, for in the Late period it was blocked up. The level of its sill is 20·9 feet below datum..

There are no windows on either side of the street, and in all probability none ever existed. But it should be remembered that, unless it were on the ground floor of a house, no window would have survived; the windows of an upper floor would have been obliterated whenever a wall was raised, for the mason first carefully levelled the existing masonry on which he was to build.

Soak Jars.

Close by the above-mentioned opening (Plate XXII, *b*), there is an interesting example of how water was carried away where there were no drains. A small aperture in the wall, 5·25 ins. high by an average of 3·25 ins. wide, allowed the water to pass out into a roughly constructed brick pit, 10·5 ins. square by 1 ft. 5 ins. deep, built over a large jar about 3 ft. high. Both the drain hole and brick pit are of Intermediate II date. This jar was roughly perforated and the water escaped through a hole in its bottom. How it was emptied of sediment is not clear; possibly the water that fell into it contained no solid matter. A second jar was also found beneath the one described above.

Encroachments.

In the upper levels of this street and particularly on the western side, we see that as long as 5,000 years ago deliberate and successful attempts were made to encroach upon the street, even if it were only to the extent of a few inches. Then, as now the city authorities needed to keep their eyes open to the possibility of land-grabbing..

But from its extent we assume that another form of encroachment on the street had official countenance. Along each side, roughly half the excavated

length, a long platform was constructed in the Intermediate II period by filling the 4 feet space between the houses and a thin wall, one brick thick, with earth and rubble. Owing to denudation we do not know the original height of these platforms, but there is reason to think that their use for the original purpose was continued throughout the Intermediate I period also (Plate XXI, *a-d*).

I am inclined to think that along these platforms either stalls were set up daily by the market people and removed at night, or that on them was a row of lock-up shops; there are only two house-doors of later date opening on to the western platform and none at all on the eastern side of the street. In the Intermediate II period a water-chute was built over the platform instead of setting it in the thickness of this house wall (Plate XXII, *a*).

Drains.

At the beginning of the Intermediate period, a drain ran along the greater part of the western side of the street and then crossed over to the east. Later on, there were two branch channels, as seen in Plate XXI, *c* and *d*. In the Late period, however, there were drains along both sides of the street.

The drain seen in Plate XXI, *e* and *f* is of the Intermediate III date and its channel, which is 1 ft. 8·5 ins. deep by 10·5 ins. wide, slopes southwards at a gradient of 1·1 ft. in a distance of 193 feet, the bottom of its channel at the extreme north being 22·8 feet below datum. The very gentle gradient of this drain is sufficient proof that it was used to carry off water only, and not sewage. But even rain-water from roofs must carry down a considerable amount of solid material which tends to clog the drain unless it be periodically cleared. That this was actually the case is shown by the large quantity of sand that was found lying in little heaps in the road beside the drain.

Façades.

For some reason which I am not able to explain, the façades of the buildings along the eastern side of the street are considerably better built than those along the western side. Possibly, we have an important series of buildings on that side whose walls were raised with considerable care as the levels rose. The masonry is, in fact, of such excellent quality that it is difficult to detect additions. The adjacent buildings are, however, clearly distinguishable from each other, for each is complete in itself, as shown by the vertical lines that cut the façade at various places, though there are no spaces left between their side-walls.

Road Metal.

At an approximate level of 18·8 feet below datum we found the road to be definitely paved with a conglomerate of broken brick and potsherds in clay cement. This material, which was laid down in the Intermediate III period, was obviously intended to serve as road metal, and it formed a tightly packed substratum suitable for pedestrian and animal traffic. The fragments of bricks that were used were of a size that would easily pass through a 1½ in. ring, and the potsherds

mixed with them were of smaller size still. This road metal was probably laid down in wet weather to ensure rapid consolidation; there are no indications that it was either stamped in or rolled. The people of Mohenjo-daro were certainly fortunate in having such ample supplies of material for road-making, though there is no evidence to show that they took any particular care of their roads in the later periods.

Orientation.

To all intents and purposes this main street runs north and south; its actual divergence from this orientation is only 6° east of magnetic north.

Batter of Walls.

In the Intermediate period all the outer walls of houses or public buildings were "battered," *i.e.*, the outer face was sloped inwards, which gives some of the walls rather a curious appearance (Plate XXIV). The inner face of a battered wall, is, however, always strictly vertical. This method of building is well known in Babylonia and Egypt, and especially in the latter country, where the slope was produced by laying the foundations in a slight horizontal curve so that the bricks or stone blocks would lie at a slight degree from the horizontal.[1] But on exposing the foundations of various buildings, we have found that this method was not the same as adopted at Mohenjo-daro. Here the batter of a wall was produced by setting each course of bricks a little way back from the course below it; the face of the wall was then rubbed down with bricks to remove the projections.

This system of building the outer walls of the houses with a batter has the curious result that the lower we dig down into a lane, the narrower it becomes, despite the fact that the masonry is often better in quality (Plate XXII, *d*). This only applies, of course, where the later building was carefully done and trouble was taken to maintain strict alignment with the walls below. Some of the walls of the Late III period have a batter, but after that time the faces of all the walls are vertical.

Comparisons with Late Plan.

A comparison of the Late period plan published in the last year's report with the Intermediate plan (Plate XX) will show that in their general lay-out the two plans closely agree, owing to the fact that nearly all the important walls of the Late period are in reality only continuations upwards of older structures.

To facilitate an easy comparison of the two plans I have used in both, the same block numbers as far as possible. Block 4, however, includes the major portion of block 1 of the Late period. The numbering of the rooms also follows the same order, and the same system is being followed in making the plans of the lower levels. This was done by painting the number on a wall of each chamber as it was excavated. When partition and other walls were removed

[1] Petrie, *Arts and Crafts*, p. 62.

and there was no place to paint a number, it was carried down by means of a numbered stake planted in the earth. This method also facilitates the exact location of an antiquity in a large open space, where otherwise it would be difficult to record its position.

The new plan illustrates only one phase of the Intermediate period, namely, Intermediate I, whose door-sills and pavements average 13 ft. below datum. There is naturally a swing above and below this level, due either to the varying gradients of the ground on which the buildings were placed or to the different heights of the older walls that were used as foundations. Serious divergencies are surprisingly few, and those will probably be explained when the lower levels are planned.

Brick Robbing.

In the excavation of the Intermediate I level, we found that some of the buildings of that period had suffered greatly by removal of bricks for re-use in the Late period. This destruction was especially noticeable to the north of block 4, and also west of block 10.

It should be noted that in the Intermediate I period the majority of the lanes were open right through, whereas many were partially or wholly blocked up at some time during the Late period.

Wells.

Few of the blocks are without a well or wells, but several of them are in courtyards, for instance, in blocks 4 and 10; they were generally enclosed in small well-chambers, with a view perhaps to prevent accidents. In all probability they were used by the neighbours also, for they are usually close to the entrances of the houses. Moreover, their proximity to a street allowed of the easy disposal of the water spilt in drawing it.

We have noticed that particular care was taken in the Intermediate I period to prevent the soil round the wells from becoming water-logged by percolation through the porous, uncemented brick pavements. To avoid this the pavements of well-chambers were laid two or three courses thick and often as many as five courses have been observed. In house IV, block 7 and house I block 8, the pavements round the wells rest upon deposits three or four feet deep of rounded slag nodules, which seem to be apparently the refuse of a brick kiln. The desirability of keeping the pavement dry can only be appreciated by those who have lived in a salty country; once the base of a wall is attacked by salt and damp, it is almost impossible to prevent its gradual destruction.

In our deeper digging we have come upon a few wells of a more ancient date that ceased to be used in course of time and were eventually forgotten. Plate XXII, c, illustrates one of these that had become filled up with *débris* and so completely forgotten that a wall was built across it at a later date. This well with a coping 13·4 feet below datum was in use until the end of the Intermediate I period, and the ablution place to the east of it is roughly a foot below.

Massive Wall.

The very massive wall, running east to west, which roughly separates the G section into two portions, becomes considerably thicker as it descends; for its northern face has a very pronounced batter since it was the outer wall of a building. Curiously enough, it appears that there was no doorway in this wall during the Intermediate I period, unless an opening of the Late I period which was found blocked up rested upon the blocking of a doorway of an earlier date.[1] What this very massive wall enclosed it is difficult to say without further excavation. Its great length makes it unlikely that it is part of an ordinary house, and we must provisionally regard it as the outer wall of a public building; indeed, some of the chambers inside it resemble store-rooms rather than the rooms of dwelling houses. The very large courtyard is not unlike that of a caravan serai. Our excavations this season have shown that parts, at least, of this massive wall rest on a still thicker wall which, however, continues southwards at the eastern elbow instead of being continued eastwards once more, as shown in the Intermediate I plan.

Interiors of Buildings.

It is interesting to note how the interiors of some of the important buildings of this period were cut up and altered in Late times. For instance, house III in block 10 appears in the Intermediate I plan as quite an important building with rooms of ample size, a spacious courtyard and a well. It must have belonged to a well-to-do person, for it was substantially built. The house had the same outline in the Late period, but for reasons of economy the walls were made considerably thinner, though they followed the alignment of the earlier walls. We may perhaps suppose that the property was divided between two children; at any rate whoever owned it in the Late period was unable to keep up its original state.

From the thickness of the walls surrounding it, block 12 also was an important building in the Intermediate I period, but it ceased to be so in Late times. Though little of the walling of the earlier period remains inside this great enclosure, this is not due to poverty in those days, but to the brick-robbing that took place during the Late period. Enough masonry was found on the southern side of the enclosure to show that this was formerly a very substantial building with a large courtyard to the north. Owing to its use as a quarry for bricks, this area of ground was only sparsely occupied in the Late period—probably because the quarrying had left a large depression. One of the entrances to the original courtyard was in its north-eastern corner and the little apartment besides it may have been used as a porter's lodge. A well lay to the east of the house and close to another entrance to the courtyard from the south. Indeed, as remarked before, its close proximity to an outer door suggests that neighbours also drew water from it, a certain amount of privacy being assured to the members of the household by the thin partition wall to the west of the door of

[1] We have found what appears to be a jamb of a doorway; it is marked by a cut in the plan. But the door jamb cannot be traced.

the well-chamber. A well being a favourite place for gossip, there can be little doubt that the inmates of the house had no objection to the neighbours drawing water there.

Buildings of Special Interest.

House IV on the eastern side of block 7 must have been of unusual importance. Unfortunately, it is so badly dilapidated that a certain amount of restoration has had to be done in planning it. It had a very fine entrance in its southern wall, which was blocked up in the Late III period when a fresh entrance was made elsewhere.

No trace whatever of a doorway could be found in any of the walls of the adjoining house V, though we have cleared its ruins to well below the base of the foundations, both inside and out. It seems certain that all that is left of it had later formed part of a high platform, whose filling, it should be noted, was not the usual mud-brick. Possibly this building was once connected with the house IV to the east of it; but if so, it is difficult to account for the three walls between.

House VI was certainly connected with house V, but only a few of its interior walls have survived from the depredations of the brick-robber. On the evidence, however, of traces left on the inner faces of the outside walls, we have been able to reconstruct its plan before the destruction of the partition walls. After their removal, the whole of the interior of the house of the Intermediate period was filled in with sun-dried brick to make a platform for a new house of the Late period.

The outlines of houses VI and VII, block 7, are very much the same in the two plans. In the course of our deeper excavations here, we found that originally house VII lacked chambers 55 and 58 and was therefore, much smaller in size; it may originally have been a store-house or servants' quarters. It was enlarged in the Intermediate I period by the addition of walls on the northern and western sides to serve as retaining walls for a mud-brick filling to make a platform on which the house of the Intermediate I period was placed. This was done to raise the house above the risk of being flooded or perhaps it would be more correct to say to make it out of the reach of damp, as flood water would hardly have touched this high level. The photograph (Plate XXIV, *b*) shows the two portions of the northern wall of the original building; the smooth face of the first built masonry which was later hidden by the filling and the rougher masonry above, served specially to enclose the filling prior to the erection of the Late period house upon the platform so formed. This latest house was built partly of sun-dried and partly of burnt brick.

House I, block 8, was in Intermediate I period, a substantial but simply arranged building with an unusually wide entrance, which was still wider in the Intermediate II period, that must have required an unusually heavy door. It seems that a portion of the courtyard of this house was roofed in, for there was a square column at its western end. This column was built in the Intermediate II period. It is of special interest as all of its four sides slope inwards with the

result that it thins considerably towards the top. This is the first example of a tapered column found at Mohenjo-daro.

Whether house II, block 8, was once part of house I is uncertain. It appears likely as there is a passage between the two. This little group of rooms is noteworthy for the unusual excellence of the paving, the greater part of which remains intact instead of being torn up in ancient times for its material to be utilized elsewhere. There is a very large courtyard on the northern side of this house, which was at a later date filled in with unburnt brick. The northern side of this court has not yet been cleared.

Subsidences.

Though we have penetrated in many places to the Intermediate III level which averages 20·4 feet below datum, it has not yet been reached uniformly all over the section. Despite the thickness of the walls and the depth of their foundations, many of the walls of this period have sunk disastrously, so much so, that the houses must have collapsed and the roofs fallen in. As the people of Mohenjo-daro knew quite enough not to place their walls upon unsubstantial ground, we can only conclude that water-logging was the cause of these subsidences. The wall of Intermediate III date around the well illustrated in Plate XXII, *e*, has clearly subsided badly.

Amount of Dêbris removed.

This photograph (Plate XXII, *a*) also affords a good illustration of the amount of *dêbris* that has been removed from this part of the Dk. area. When we commenced work, the coping of the well, as shown in house II, block 10, in the plan, projected only slightly above the pavement of its room whose walls averaged some two feet higher.[1] The top of the well is 5 feet below datum and dates from the Late I period. Its lower portion is at present hidden by the wall referred to above, but sufficient is visible to show that the steening was raised over and over again to bring it into use as the levels of the mound rose. This well was in use during six phases, and the very low estimate of 50 years for each indicates its use to have extended over some 300 years. This seems to be a very low estimate indeed; it could be doubled without straining the imagination.

Deposit of silt.

In the last year's report I pointed out that in various places between the mounds, there is clear evidence of the formation of a thick deposit of silt between two layers of brick *dêbris* that had been washed down from the mounds. This deposit, which is some 2 feet thick, can only have been laid by a flood. Its upper surface is roughly 24 feet below datum and the water would, therefore, have reached the foundations of the buildings of the Intermediate III period, which in many houses extended about 3 feet below the general datum level of the phase. This seems very probable if we take into account the spongy nature of the soil, chiefly composed as it is of decayed burnt brick, which would

[1] *See A. S. R.*, 1928-29, Room 26, house II, block 10.

have caused the water to rise by capillary attraction considerably above its real level. It might be possible later to correlate this flood in Sind with floods that are known to have taken place in the early history of Sumer.

Masonry.

As far as we can judge at present, the finest masonry was that of the Intermediate II period, when brick-laying seems to have been almost a fine art and careful work the rule. For sheer massiveness of construction, perhaps the Intermediate III period was superior, but the brick-layer of that time certainly did not produce such refined work as his successors. Unfortunately, small antiquities so far found in both these phases are too few to allow of a general comparison with those of later times. Objects found in houses of the Intermediate III and II periods were probably either re-used or broken up by the people who took the bricks from these buildings in order to use them for their own houses.

List of Principal Objects.

Plate XXIII.

No. 1 (Dk. 8050). Hairpin. Bronze (?). Length 4·4 ins. Period: Intermediate I. Level:—12 ft.

The top of this pin represents the heads of two antelopes with straight, spirally twisted horns, back to back. The shoulders of the animals are somewhat ingeniously joined. These heads have been identified with *Gazella bennetti* which is distributed throughout the plains and low hills of North Western and Central India.[1] The pin was probably worn in the hair and not in the clothing; in either case the horns must have been a nuisance, and those of one animal are badly bent. This ornament is of especial value as up to the present few complete hair-pins have been found at Mohenjo-daro.

No. 2 (Dk. 7992). Knife. Copper. Length 3·2 ins. Period: Late II. Level:—6·7 ft.

Point missing. This knife had been carefully wrapped in a cotton cloth, of which traces were found adhering to the blade.

No. 3 (Dk. 8061). Knife. Copper. Length 3·32 ins. Period: Intermediate I. Level:—11·5 ft.

No. 4 (Dk. 8005) Razor. Copper. Period: Late II. Level:—6·4 ft.

When this object was found, it was thought that a portion of the blade was missing, but cleaning and the discovery of another specimen of identical form has proved otherwise. The razor has two edges, one straight and the other curved. Its handle is of special interest as it takes the form of a duck's head, whose flat upturned beak is unmistakable. Handles in this shape are known in Egypt in the XVIII dynasty[2]. In its general shape, moreover, this razor is somewhat similar to certain Egyptian examples. Comparison with Sumerian and Elamite forms is as yet impossible.

Nos. 5 and 6 (Dk. 8489). Sealing or amulet. Pottery. 1·1 ins. in diameter by 0·25 in. thick. Period: Intermediate III. Level:—19·9 ft.

[1] They appear to me to greatly resemble the black buck.

[2] Petrie, *Tools and Weapons*, Pl. LXI, fig. 67. Here, however, the head is that of a goose.

The obverse of this sealing which is not completely round bears the impress of an elephant with three hieroglyphic signs above it. The reverse is ornamented with an incised design of a vulture (?) with wings outspread and what appear to be human feet; the figure seems to be running, but the second foot is incomplete. This is the first object of its kind to be found at Mohenjo-daro, and it could have been used as an amulet and seal combined. The impression on the obverse was made by a square seal of the usual pattern; and an edged tool was used for incising the reverse. This latter has a very archaic look, but I know of nothing exactly like it from other countries. The design was cut before the object was baked.

No. 7 (Dk. 9114). Impression of a boss-seal. White Steatite. 1·2 × 1·07 ins. Period: Intermediate II. Level:—18·2 ft.

The animal represented is a goat whose otherwise straight horns have a slight spiral twist.[1] At first it was thought that this animal was intended to have a human face, but this is doubtful though we have found many instances at Mohenjo-daro of animals represented with human faces.[2] The long curly beard is also more suggestive of the goat than of a man. Unfortunately, this seal is somewhat roughly cut and is, moreover, weathered. The animal is adorned with three garlands, and though we have many examples of garlanded bulls both on seals and as pottery figures, this is the first instance we have come across of a goat being so adorned. We must, therefore, add this beast to the list of animals that were revered or actually worshipped by the Indus Valley people.

No. 8 (Dk. 8321). Impression of a boss-seal. Black Steatite. 1 × 0·85 ins. Period: Intermediate II. Level:—15·2 ft.

On this seal a most unusual subject is depicted. A buffalo is shown surrounded by a number of dead bodies, some of which are apparently headless, but whether as is possible, this omission is due to the carelessness of the seal-cutter, it is difficult to say. I am inclined to think that it is; as it is also apparent from the wrong position of the horns on the animal. Perhaps one should suppose that the head had been slain by the animal, for the wild buffalo is well known for its savage nature and it may have been revered on account of this very quality. But, on the other hand, in primitive art a powerful animal often represents a deity, or even a king and is depicted surrounded by dead enemies in a very similar manner to this seal.[3] It should be noted that this seal was cut first with a drill and then finished by means of a graver. This technique can also be observed in some archaic seals from Mesopotamia.

Nos. 9 and 10 (Dk. 8501). Figure of monkey. Faience (?). Height 2·11 ins. Period: Intermediate III. Level:—21·5 ft.

This obviously unfinished figure, which is now white in colour and with light brown stains here and there, was, I think, intended to be glazed. It is made of a soft paste which has not yet been analyzed, but will probably prove to be

[1] That a goat and not a sheep is depicted is shown by the short upturned tail.

[2] *A. S. I.*, 1925-26, Pl. XLVI, No. 2.

[3] Compare, for instance, the scene on the well known palette of Narmer and the lion on another slate palette of about the same date.

powdered steatite.[1] It was not made in a mould, but hand modelled and the details were supplied with a knife or other edged tool. The representation of a tail at the back of the figure proves that this figure was not intended to be a human being, though it is carrying its young in much the same way that children are carried by the poorer Indians at the present day.

Nos. 11 and 12 (Dk. 8186). Impression and seal. Dark-grey steatite· 1·3 × 1·25 × 0·55 ins. Period: Late III. Level:—8·4 ft.

The interest of this seal lies in its shape rather than the device upon it, which is already well known to us. The upper portion of the seal, which bears the inscription, is raised 0·2 in. above the face of the lower portion, and upon the vertical face of the shelf so formed a second line of inscription was incised. It may be noted that it is useless as a seal, in as much as the upper inscription would have to be used without the figure of the bull. We have many examples of the use of ordinary seals on plastic materials in such a manner that only the inscription was impressed. The upper portion of the seal which is thus of double thickness has a serrate groove cut in it measuring 0·31 in. wide and 0·15 in. deep. This groove shows practically no sign of wear. With the remark that possibly this seal was cut from another object which had this groove, I must leave it to the reader to decide its purpose.

No. 13 (Dk. 8309). Amulet. White steatite. Height 1·2 ins. Thickness 0·22 in. Period: Late III. Level:—11·9 ft.

This is the first object of its kind that has been found at Mohenjo-daro, and, if we disregard the ring at the side it has a superficial resemblance to the Egyptian sign for stability (*dad*).[2] That this object was meant to be suspended is proved by the presence of four small holes in pairs at the top, each large enough to take a good-sized thread. It is fairly well made and has been cut, and not moulded. No trace of glaze remains, but there is every probability that it was once, or had been intended to be glazed. This object is of special value in that amulets that were carried on necklaces were very rarely worn at Mohenjo-daro.[3]

No. 14 (Dk. 8203). Impression of boss-seal. Steatite. 1 × 1 × 0·26 ins. Period: Late III. Level:—11·1 ft.

The scene on this seal is of more than ordinary interest. It represents a female figure wearing the horns of a ram or goat[4] and an upright plume that resembles the raceme of a flower. She also wears a long pig-tail which seems to be tied at the end and with a ribbon. The way in which this pig-tail stands out suggests that it was stiffened in some way. On the other hand, it may have been the intention of the seal-cutter to give special prominence to this feature. The figure wears armlets and bracelets, clearly discernible in the seal

[1] This material at Mohenjo-daro was frequently used as a body for faience.

[2] Gardiner. *Egyptian Grammar*, p. 489. The sign is supposed to represent a lopped tree and it was a favourite amulet in Egypt, especially in the XVIII dynasty and later times.

[3] One does not, except, however, to find many objects of this kind in a city site; they are more likely to have been buried with the dead, if indeed, inhumation was practised by the people of the Indus Valley civilization.

[4] Rams wearing this particular form of horn are well known in ancient Egypt, but that goat's horns are indicated is clearly shown in seal No. 7 which has already been described.

itself, and is clothed in a short kilt, the greater part of which hangs down behind. Joined to the body are the trunk and hindquarters of a tiger, whose stripes are unmistakable. Very similar figures, but without the animal's body occur on two seals found in the season 1928-29.[1] That they are deities of some kind there is no doubt, and the association of this particular figure with the tiger suggests that they were not always benign. The horns imply a connection also with another animal very opposite in nature to the tiger.

No. 15 (Dk. 8036). Medallion. Yellow Steatite. 2·7 × 2·5 × 0·6 ins. Period: Late II. Level:—7·5 ft.

On the obverse of this object is a figure of the now well-known single-horned animal carved in relief that projects 0·07 in. above the face of the medallion. The reverse is unornamented and slightly convex. The body of the animal is recessed in four places, doubtless to take inlay. These sunken portions are slightly under-cut in places and in all probability were once filled in with a coloured paste, probably gypsum coloured with a red ochre. The groove around the edge in conjunction with the device above the animal forms a motif that is well known in shell inlay.[2] It is difficult to say with any certainty for what purpose this medallion was used. It may have been a ritual ornament worn on the person as a pectoral and possibly it was partly enclosed in a metal case by means of which it was also suspended.

No. 16 (Dk. 8165). Impression of seal. White Steatite. 1·28 × 1·2 × 0·28 ins. Period: Late III. Level:—9·5 ft.

This seal which is somewhat damaged, shows a buffalo about to be transfixed with a spear by a man who also has one foot upon the muzzle of the animal. It seems to me that the figure of the man was added later, for little room was left for him, and in consequence he is now very indistinct owing to the wear of the edge of the seal. The barbed spear carried by him is a form quite new to us for we have as yet found no weapon of this type. If the figure represented on this seal is intended to be an ordinary individual, it seems that the buffalo was not regarded as sacred by the Indus Valley peoples. It may, however, have been the totem of some particular tribe and the man a member of another tribe at enmity with it.

No. 17 (Dk. 8290). Mask. Pottery. Height including horns 2·7 ins. Period: Intermediate II. Level:—13·4 ft.

This mask which was made in a rough mould was intended to have been fixed to something, for it is hollow at the back and there are two holes at the sides for fixing it to something. The horns and ears are those of an ox, which in conjunction with the human face suggests a deity whose attribute was the bull or cow. A very similar figure in copper has been found at Ur at a very early level and may possibly represent the same deity.[3]

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[1] *A. S. I.*, 1928-29. See also *Mohenjo-daro and the Indus Civilization*, Pl. XII, fig. 18.

[2] *A. S. I.*, 1924-25. Pl. XXI, fig. c (centre).

[3] *Antiquaries Journal* Vol. IX, Pl. XXXVII, p. 323. This mask with the exception of the longer horns is remarkably like our example. It is called a demon, but there may not have been anything demoniac about it, in our present sense of the word.

EXPLORATIONS IN SIND.

By Mr. N. G. Majumdar.

Since the commencement in 1920-21 of the exploration, by Rai Bahadur Daya Ram Sahni, of the chalcolithic mounds at Harappa and the discovery of the contemporaneous site of Mohenjo-daro, there has been a growing recognition of the possibilities of Sind as a field for archæological exploration, and from time to time attempts have been made by officers of the Archæological Department to explore ancient sites lying in this part of the country. In 1925-26, some of the mounds marking old habitations in the Larkana and Upper Sind Frontier Districts, were visited by Mr. K. N. Dikshit,[1] and from surface indications he pronounced three of them to be of a prehistoric character. Later, in 1927-28, excavations were carried out by me at one of the mounds at Jhukar near Larkana, and it was proved beyond doubt that the site was as old as Mohenjo-daro.[2] Stray information regarding other sites in Sind was supplied to the Archæological Department by Mr. G. E. L. Carter, late of the Indian Civil Service, and Mr. Cousens has referred to some of them in his *Antiquities of Sind*, published by the Department in 1929. By this year much valuable evidence regarding the diffusion of the culture over the now arid tracts of Sistan and Baluchistan became available as a result of the successful expeditions of Sir Aurel Stein[3] and Mr. Hargreaves[4] into those trans-Indus territories; but so far as the Indus Valley itself was concerned, our information was very much limited, and it was felt that a regular survey of prehistoric sites in this region should be taken under without delay.

Being detailed for this task by the Director General of Archæology, I left Simla at the end of October 1929, and set out soon after on my exploratory journey from Karachi.

Our first camp was at Gharo, near Dabheji Railway Station on the Kotri-Karachi line of the North-Western Railway. We moved to this place from Karachi with a view to examine the site at *Bhambor* on the Gharo Creek, about 3½ miles from Gharo. Being the scene of the legend of Sasui and her lover Punhu[5] which is so familiar to the people of Sind, the mound is locally known as "Sasuijo Takar" or the hill of Sasui.[6] It is about fifty feet in height and was probably an outpost guarding the Gharo creek, not earlier than the Arab invasion of 712 A.D.[7] This dating was confirmed by the surface finds of glazed pottery, a kind of honeycomb-shaped ware and small copper coins of the Arab rulers of Sind. In the exploratory trenches sunk at the site, by the side of a stone wall, about eighty of these copper pieces were found together with fragments of glazed pottery like those noticed on the surface of the mound.

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[1] *A. S. I.*, 1925-26, pp. 98-100.

[2] *Ibid*, 1927-28, pp. 77-83 and Pls. XXVII-XXX.

[3] For Sistan see *Innermost Asia*, Oxford, 1928, Vol. II, pp. 945-47 and 949-56; and for Baluchistan see *Mem. A. S. I.*, Nos. 43 and 37.

[4] *A. S. I.*, 1925-26, pp. 59-72; and Mem. A. S. I., No. 35, pp. 17-86, and pls. VII-XXIV.

[5] Burton, Sind (1851), pp. 389, and 92 ff. *Cf.* also Elliot's *History of India*, Vol. I, pp. 332-36.

[6] R. D. Banerji, *Progress Report of the Archæological Survey of India, Western Circle*, 1919, p. 67.

[7] Cousens, *Antiquities of Sind*, pp. 80-81.

From Gharo the camp was shifted to Tatta, about twenty-four miles to the east. There are certain ruins at *Kalankot,* about five miles to the south-west of Tatta, on a spur of the Makli Hills, surrounded on three sides by a lake (*Dhand*) representing no doubt an arm of the old Indus. Kalankot is a fort of the Muhammadan times with a mosque on its west side, and there is nothing to show that the site was ever occupied in an earlier period. From Tatta we visited *Budhjo Takar* consisting of a couple of hillocks on the left bank of the Indus opposite Jerruck, thirteen miles from Meting Railway Station, where Carter is said to have collected some flints 'upon two tumuli of brick débris'.[1] Crossing the river at Jerruck we came to the hillocks, the tops of which no doubt looked like tumuli from a distance. In reality, however, these are nothing but an outcrop of natural rock and have no traces of ruins upon them. Not a single flint flake or potsherd could be detected in the whole area, and it did not seem ever to have been a site for human habitation.

Returning to .Tatta from Budhjo Takar, we proceeded to Gujo, midway between Tatta and Gharo, and ten miles to the west of the former on the Karachi road. This place had already been visited by Carter, and Cousens writes that "At the Tharro near Gujo, between Gharo and Thatha, where there is a wonderful walled neolithic city, he made a fine collection of flints".[2] *Tharro* hill is about two miles to the south-west of Gujo Bungalow where we camped for about eight days. The hill rises only thirty to thirty-five feet above the plain and has a more or less flat top. On the north side it is occupied by the remains of a series of Muhammadan tombs and a temple locally known as the *Hat* which has decayed almost beyond recognition. To the south of these is a plateau measuring about 1,600 feet by 800 feet, bestrewn with innumerable chert flakes. There is a range of low mounds looking like a rampart wall, five to six feet in height, enclosing portions of this area, which probably led Carter to think that it was the site of a "walled city." At three places on the rocky surface of the hill are carved a number of pictorial symbols. At one of these spots no less than six signs are engraved, but at each of the other two only a single sign is found. Among these "the man", "the bow and arrow" and "the intersected rectangle" are reminiscent of similar ones occurring on the seals of Harappa and Mohenjo-daro, although the available evidence is not enough to establish either the prehistoric date for these symbols or a connection between them and the pictographic script of the Indus Valley. In all, 269 flints were collected from this place, comprising flakes as well as cores, some of the former being of a "pigmy" type, not more than $\frac{5}{8}''$ in length.

A feature that attracts notice on this part of the hill is a group of over one hundred small isolated mounds, or rather piles of stones, which at first sight appeared to be Muhammadan graves. As, however, they are oriented north to south in some cases and east to west in others, it was thought worthwhile to explore the contents of some of them. The majority of these tumuli are rectangular, and the rest circular in shape. Three of the rectangular ones were

[1] Cousens, *Antiquities of Sind*, p. 47 and p. 109.
[2] *Ibid*, pp. 46-47.

opened and each of them revealed the remains of a chamber none exceeding nine feet in length by four feet in breadth. The chambers are crudely built, their walls being made of rough hewn stones and standing only two to three feet high. From each of the chambers were recovered pottery articles comprising vases and "dishes-on-stand," the latter recalling the specimens discovered at the chalcolithic sites of the Indus Valley. No traces of skeletal remains were found in the course of the digging, and it is difficult to imagine what purpose these deposits served. The pottery is unpainted red ware which does not furnish any definite criteria as to its age, although it is probable that it may, along with the rude stone structures with which it is found associated, belong to some prehistoric epoch like the chert flakes and cores lying about on the top of the hill. No dwellings of any kind have been found in this area and the earth deposit over the natural rock is only a few inches deep. The future explorer may not, therefore, find it a suitable site for excavation; but it may be useful to open more of the small mounds some of which, it may be noted, may be as late as the mediæval period. In one of the circular mounds, when barely six inches of earth had been removed, there came out a large clod of fine clay. When broken this yielded over a hundred offertory tablets of the Buddhists. Two types could be distinguished among these tablets all of which are of unbaked clay: one on which figures a seated Buddha with the Buddhist creed below and another with the same creed below a row of *chaityas*. The characters in which the creed is written are those in use in Northern India during the 7th or 8th century A.D., the tablets being similar to those discovered in the excavations at Mirpur Khas in Sind.[1] The Muhammadan tombs in the northern section of the hill referred to above are interesting, as some of them exhibit fine workmanship and represent a style of architecture much earlier than that of the monuments on the Makli hills at Tatta.

From Gujo we proceeded to Mirpur Batoro, crossing the Baghar on the 22nd of November, and from there visited the mounds at *Shahkapur, Kakeja, Katbaman* and *Rarri*, but none of them appeared to be older than Muhammadan times. After inspecting a few more of these late mounds we came to Tando Muhammad Khan, and examined the Buddhist *stupa* called *Sudheranjo Daro*, near Saidpur, and also another *stupa* near it, both built on the spurs of the Gunjo Takar Range. No signs of a prehistoric occupation were found in this area. The mounds at *Nadamani* and *Tharri*, which are situated between Matli Station and Tando Ghulam Ali, were also inspected, but none of them seemed to belong to a pre-Muhammadan epoch.

Kotri was reached by the middle of December, and certain parts of the *Lakhi Range*, adjacent to the Kotri Station were examined where according to Carter, the existence of flints indicated a site of a prehistoric settlement. The place was located without much difficulty, and a number of black flints were indeed found lying over it. But these flints are in their natural unwrought condition, and not artefacts, and, therefore, of no archæological significance. Indeed there is nothing on these hills to show that they were ever inhabited by man.

[1] Cousens, *Antiquities of Sind*, p. 91, fig. 11.

From Kotri we travelled along the right bank of the Indus, partly by road and partly by rail. Passing through Petaro, Budhapur and Manjhand, we arrived on the 21st of December at *Amri* on the Indus, to the east of the Lakhi Range on the northernmost border of the Karachi District. Writing in 1834, Burnes gives an account of this place in his 'Narrative of a voyage on the Indus' in the following terms: "About eighteen miles below Sehwan, and on the same side of the river, is the village of Amri believed to have been once a large city and the favourite residence of the former kings. It is said to have been swept into the Indus. Near the modern village, however, there is a mound of earth, some forty feet high, which the traditions of the country point out as the halting-place of a king, who ordered the dung of his cavalry to be gathered together, and hence the mound Amri. There are some tombs near it, but they are evidently modern."[1] Cousens refers to this account of Amri,[2] but does not give any further information, and it appears that the site had never been examined by an archæologist before our visit to the place in December, 1929.

The mound mentioned by Burnes stands to the west and north-west of the village which is about two miles to the east of Amri Railway Station on the way from Sehwan to Kotri. It is, however, not the only one of its kind at Amri. Close to it there are other mounds of which the most important one lies farther to the west of the mound mentioned by Burnes. The latter, which is referred to here as No. 1, is about forty feet high and the former, No. II, only about fifteen feet (Plate XLVI, *c*). Mound No. 1 seems to be composed of the *débris* of sun-dried brick buildings raised on the vestiges of an earlier occupation. A cutting at one end of the mound, whence people were removing burnt bricks, showed that in the construction of the earlier buildings bricks measuring $10'' \times 7\frac{3}{4}'' \times 1\frac{3}{4}''$ were used. To what age this lower stratum belongs is more than we can say, but judging from the glazed pottery fragments and other objects lying on the surface, the *kachcha* brick structures on the top of the mound cannot be earlier than the Muhammadan times. From surface relics Mound No. II would, however, strike an observer as altogether of a different category. It is littered with potsherds and fragments of pottery bangles and "cakes", similar to those so familiar to us from the excavations at Mohenjo-daro. These objects as well as a number of chert flakes which I picked up from the western side of the mound leave no doubt as to its prehistoric character.

The following week, during Christmas, we returned to Amri and commenced digging on mound No. II, at the spot where the chert flakes had been found. Owing to the presence of Muhammadan graves on the top of the mound, as is the case with a vast majority of sites in Sind, we had to proceed with great caution and confine our operations only to a narrow area as far away from the graveyard as possible. The first trench (Trench 1), measuring fifty feet long by twelve feet broad (Plate XLVI, *d*), was sunk midway between the top of the mound and the plain level. At a depth of three to five feet from the surface of the trench the remains of three stone walls were exposed, and the digging was carried down

[1] *Travels into Bokhara*, etc., Vol. III (1834), pp. 58-59.
[2] *Antiquities of Sind*, p. 175.

below their foundations, where it reached a level lower than that of the surrounding plain. The walls were found to be of a rather fragmentary nature, standing only to a height of two to three feet.

In all, 253 objects (Am. 1-252, 521) were collected from this trench. These came from two distinct levels, namely from the surface of the mound down to the top of the walls and from below their foundations, at a depth of 1 to 4 feet and 6 to 7 feet respectively. Of the objects from the top level the most noteworthy is a collection of over one hundred potsherds representing painted vessels of a light red ware having thick walls, with designs in black on bright red slip. This class of pottery is already familiar to us from the excavations at Mohenjo-daro. Some of the motifs occurring on the pottery are: "Fish-scale" (Plate XLVII, 12), flower within circle (Plate XLVII, 13); leaves (Plate XLVII, 9, 11), ovolos and wavy lines; square with incurved sides with flower in centre; peacock with flowers (Plate XLVII, 8) and ovolos in compartments (Plate XLVII, 7).

Along with the pottery were found a number of other objects which also are generally representative of the "Indus" culture unravelled at Harappa and Mohenjo-daro. Some of the typical ones are:—

1. Green Felspar bead, cylindrical, L. ·6″, Am. 252.
2. Four biconical terracotta beads or spindle whorls with incised decoration. H. ·9 to 1″, Am. 233-236.
3. Twelve terracotta toy chariot fragments. Am. 179-190.
4. Eight terracotta bull figurines, fragmentary. L. 3″ to 4·5″, Am. 195-201, 203.
5. Terracotta bull-head, painted, with two holes for fixing it to the body which is missing. L. 1·3″, Am. 202.
6. Twenty-five terracotta bangle fragments either plain, or marked with blotches of red or chocolate paint. Am. 218.
7. Ten pottery "cakes" of various sizes. Am. 120-129.
8. Eleven chert flakes and cores of various sizes. Am. 162, 163, 221-229, 250. Am. 162, core, L. 2·7″, and Am. 250, flake, L. 2·5.″
9. Miniature unpainted pottery vase. H. 1·75″, Am. 166.
10. Fourteen fragments of incised pottery dishes of a red ware. Am. 119, 167-175, 178, 244-45, 247.

At the bottom of the trench, embedded in a sort of blackish soil, was found painted pottery of an altogether different fabric and ornament (Plate XLVII, 1-6, 10). This is a thin, pale ware characterized by a plain reddish brown band at the neck, a chocolate band at the mouth on the inner side, and geometric designs in black or chocolate on pink, or in some cases, on cream wash, the effect of the ornamentation being not so striking as that of the "Mohenjo-daro type" of pottery recovered from the upper stratum of this trench. Some of the commonest motifs are: hatched lozenges in a row (Plate XLVII, 1, 2); solid lozenges in a row (Plate XLVII, 3); chequers in the middle of enclosing rectangles (Plate XLVII, 4); a row of sigmas (Plate XLVII, 5, 6); and chevron (Plate XLVII, 10). The pottery was associated with chert flakes and cores, of which about fifty were collected. To determine if this new type of pottery

lies also outside the mound, *i.e.*, below the alluvium, Trench II measuring thirty-five feet long by twenty-six feet broad was dug to the east of Mound 2. This new trench revealed, within a foot of the surface, the remains of a stone-built structure. A wall, two feet in width, belonging to this structure was found standing to a height of about four feet, and was followed up to a length of thirty feet. Along its eastern face the foundations of a number of small rooms were exposed and heaps of nodular gravel, evidently used for the foundations, were cleared in the course of the digging from the bottom of the walls. Here, once more, we were on the same stratum as that encountered at the bottom of Trench I, a fact which became evident when the layer of black soil reappeared, and with it the polychrome (or 'bichrome') pottery of which 214 specimens were recovered from this area. Trench II was deepened four to five feet, and all the pottery and associated objects were discovered within two to three feet from the surface of the trench. Although no complete pots were discovered in the earlier stratum, it appears that many of them were open vessels of the beaker and tumbler types.

That the two classes of wares from Amri are fundamentally different will be manifest even from a casual examination of their respective fabric and decoration. And we should probably be justified in assuming that they represent two different cultures, of which the later one is contemporaneous with Mohenjo-daro. In decoration and colour scheme, as well as in fabric and style, the earlier pottery from Amri seems to belong to the same class of wares as that discovered at Nāl in the Jhalawan District of the Kalat State excavated by Mr. Hargreaves.[1] Further examples of this and kindred wares are now known from a number of other sites in Jhalawan and Makrān, *e.g.* Kulli, Mehi, Badrang-damb, Kargushki-damb, Pāk, Awaran and Nundara.[2] The stratification of Mound No. 2 at Amri is suggestive of the fact that Nāl is earlier than Mohenjo-daro and not the contrary as some scholars have imagined.[3] The pottery from the earlier stratum of Amri, therefore, serves as a link with some of the prehistoric (shall we now say "pre-Indus"?) sites in Southern Baluchistan, and at the same time furnishes a valuable clue as to the relative age of these sites.[4]

The tradition recorded by Burnes in 1834 that the old city of Amri was swept away by the river Indus seems to be based on fact. The results achieved in Trench II would go to show that such scanty remains as there may even now exist, particularly of the earlier culture, would be found underneath the present alluvium and not in the mounds themselves.

While encamped at Amri we examined the ruins of an old town, two miles to the north-west of the Railway Station, lying along the east and west of the Sehwan road and the railway line, and to the south-east of Thati village, over an area of some four acres. Some samples of painted pottery and a few copper coins were picked up from the site, and we were shown the pits from which

[1] *Mem. A. S. I.*, No. 35.

[2] Stein, *Mem. A. S. I.*, No. 43, Pls. II, V, XX, XXIV, XXV and XXVI.

[3] *Ibid.*, pp. 95, 103, 144.

[4] For a detailed consideration of the inter-relations and sequence of these potteries as well as their foreign parallels, see now *Mem. A. S. I.*, No. 48.

big pottery jars had been recovered by men in search of "treasure". Traces of quite a number of these jars, still lying embedded in the soil, could be seen, as there had been a shower of rain just before our visit. The origin of the site is attributed to King Dalu Rai, a figure that looms large in the semi-historical legends of Sind. In view of the pottery and other surface relics it is not possible to assign to this site a date earlier than Arab times.

The next site examined is the one called Kahujodaro near Mīrpurkhās, in the Thar and Parkar District, where successful excavations were carried on by Cousens and Bhandarkar in 1909-10 and 1916-17 respectively. These had resulted in the clearance of a Buddhist *stupa* which has since been conserved by this Department. But encircling the *stupa* there are several mounds that still await excavation. To the north of the *stupa* a trial trench was excavated during our stay at Mīrpurkhās in order to test if there existed earlier remains below the level of this structure. This yielded, at a depth of five to six feet, a chalcedony bead, two copper coins and some plain pottery fragments but no object of an earlier date. Excavation along a wall to the south of the *stupa* also did not afford a clue to any earlier occupation. While in Mīrpurkhās we visited several mounds in this District, including those near Shadipalli Station, at Khirah, about thirteen miles to the north-east of Mīrpurkhās and those near Sindhri, about fourteen miles to the north-east of the same town, and the mound called *Mumaljimari* near Umarkot. But at none of these places any vestiges of the prehistoric culture were found.

From Mīrpurkhās we came to Hyderabad and proceeded immediately to visit a few mounds situated in the Badin portion of the Indus Delta. Near Peeru Lishari Station of the Hyderabad-Badin Line we came across a late mound called *Otgo Daro*, and half a mile to the south of the Badin town, along the road to Sirani, examined the remains of *Old Badin* which occupy an area of about fifteen acres, varying in height from six to eight feet. Old Badin has been described by some as a prehistoric site, but that it dates from the Muhammadan times is evident from the fragments of pottery hand mills (*jandis*), glazed pottery and small coins which were found at several places in this area. Some of the other mounds visited in the Badin *taluka* are those known as *Kandarwaro Daro*, about three miles north of the town, and *Dodojo-mari* or *Ropamari*, about five miles to the south-west of Bahadmi which is 22 miles to the south of Badin. No antiquities of a pre-Muhammadan period were noticed at any of these sites.

Leaving Hyderabad on the 8th February, 1930, and halting at Hala on the way, we reached Nawabshah on the 10th. On the 11th February we proceeded to *Thul Rukan via* Sakrand and Kazi Ahmed and returned to Sakrand the same night. In the course of this journey, which covered some 200 miles, many sites were examined in the talukas of Hala, Nawabshah, Sakrand and Moro. Of these the earliest is the Buddhist *stupa* at Thul which is surrounded by a belt of hitherto unexcavated mounds. They average 7 to 8 feet in height and appear to mark the site of monasteries.

On the morning of the 12th February, a search for early sites brought us by a happy chance to the three mounds known as *Chanhudaro* (Plate XLVI, *a*).

These are situated to the south of the village of Jamal Kiriyo in the Sakrand *taluka* of the Nawabshah District, on the Hazari Wah, a branch of the Dad Canal, and to the south-east of the point where the latter is crossed by the road from Nawabshah to Sakrand. In the course of an hour we were able to collect from the ruins not only a number of chert flakes, but also a good many samples of painted pottery, beads and terracotta objects bearing very close resemblance to similar objects from Mohenjo-daro. These surface indications made it clear that a site of the Indus culture lay buried within these mounds. The discovery was forthwith reported to the District Collector and he was good enough at our request to issue orders to his subordinates to recruit labourers for a trial excavation. But as these arrangements were considered likely to take at least a week it was decided to utilize this time in the examination of several other mounds which were reported to exist in the Shahdadpur *taluka* of Nawabshah and the Tando Allahyar *taluka* of Hyderabad.

Returning to Hyderabad by the middle of February, we visited a mound called *Daro Suta* near Tando Allahyar, which proved to be a fort of the early Muhammadan times, and then left for Shahdadpur *via* Sekhat, Uderolal and Tando Adam. Arriving at Shahdadpur we visited a promising historical site about four miles to its north-west on the road to Sarhari Station. This site comprises two groups of mounds separated by a distance of about half a mile, of which the one nearer to the town is called *Dhakanjodaro* and the other to its north-west, *Batriwaro Bhiro* or *Nainjo Bhiro*. The former which occupies about four acres of land seemed to be the site of a Buddhist *stupa*, there being here a high central mound encircled by a chain of smaller mounds similar to those at the *Stupa* sites elsewhere in Sind. The central mound is about 20 feet in height and composed of burnt bricks some of which are as much as four inches in thickness. Here, as at Mirpurkhas, carved bricks had been used for the decoration of the *Stupa* and a number of them were lying on the surface. The adjacent group of mounds, which is about thirty to forty feet high and extends over some ten acres, appeared to contain the remains of a town of the pre-Muhammadan period. Painted pottery was absent, but unpainted pottery fragments and bricks were plentiful all over the area, and some of the bricks were $11\frac{1}{2}''$ square and $2\frac{1}{4}''$ thick. Two beads, one of cornelian and the other of chalcedony, were picked up from the surface.

We then proceeded to Shahpur, 17 miles from Shahdadpur, and visited two late mounds in *Tapa Khairo Rind* on the way. Small copper coins and painted pottery were common at both the mounds. The occurrence of painted pottery of identical fabric and designs, along with the copper coins of Arab rulers, at three other mounds in *Tapa Barhun* near Shahpur, proved that the surface remains at all these sites were posterior to the Muhammadan conquest of Sind. Leaving Shahpur on the 20th February we returned *via* Nawabshah to Chanhu-daro in time to start the excavations, and encamped there for the next fortnight. The three mounds at this site, which will be referred to as 1, 2 and 3, cover an area of about 1000 × 700 feet, and rise to heights of 17, 19 and 10 feet respectively above the surrounding plain. The excavations began

on the 21st February and Mound 3 was the first to be attacked. Two trenches (Nos. I and II) both sixteen feet in width and at right angles to each other, were carried to a length of 150 feet and 70 feet respectively, and dug down to a depth of 7 to 12 feet. The nature of the *débris* in the two trenches showed that the structures that once stood here must have been composed chiefly of sun-dried bricks. Burnt brick was found only in a few fragmentary brick walls and in a masonry well discovered about six feet below the level of the plain and thirteen feet below the surface of the mound. Like the wells at Mohenjo-daro this well, which has a diameter of 3 feet 6 inches, is built of wedge-shaped bricks. The excavations reached at places a depth of 12 feet, as already stated, and as even at this level pottery was found in plenty it was evident that the virgin soil lay much lower down. Near the well, only about a foot below the ground level, was discovered a large painted vase and after its removal another similar vase was found resting just below it. Over 400 objects were recorded from these two trenches, all the antiquities being of the same type as those from Mohenjo-daro. Another trench (No. III), 80 feet long and 12 feet broad, was cut in Mound 1, and dug to a depth of seven to eight feet. The remains of burnt brick structures (Plate XLVI, *b*) including a few walls and a drain which were cleared in the course of this digging provided distinct evidence of two stages of occupation. The bricks measured $10\frac{1}{4}''$ or $11''$ × $5\frac{1}{4}''$ or $5\frac{1}{2}''$ × $2\frac{1}{4}''$ or $2\frac{1}{2}''$, thus conforming to the usual size of the Mohenjo-daro bricks. About 100 antiquities were recovered from trench III, which were of the same classes as those brought to light in trenches I and II. Some of the selected finds from Chanhudaro are mentioned below:—

Beads.

1. Five steatite discoid beads; white. Dia. ·35″; ·5″ and ·6.″ Ch 72.
2. Half of a plano-convex cornelian bead;[1] 8-shaped design in white on both sides. Original size ·9″. Ch. 73.

Shell Objects.

3. Bangle fragment. Ch 358. Pl. XLVII, 22.
4. Bangle fragment with two holes. Ch 60.
5. Bangle. L. 1·9″. Ch 484.
6. Ball incised with concentric circle design. Dia. 1·2″. Ch 459. Pl. XLVII, 25.
7. Section of chank shell. L. 2·75.″ Ch. 368.

Steatite Seals, etc.

8. Seal with two lines of pictographs; boss at the back, white. 1″ sq. × ·25″. Ch 248. (Plate XLVII, 23).
9. Seal with pictographs in three lines; boss at the back; white; the symbols include the shield and two human figures holding bow and arrow; an ibex to right. 1″ sq. × ·2″. Ch 372. (Plate XLVII, 26).

[1] This decorated cornelian bead has its exact analogy from Kish (circa 3000 B. C.). See Mackay *Antiquity*, December 1931, p. 460.

10. Seal; white; *pipal* tree device; no pictographs or animal figure; boss at the back. ·8″ sq. × ·1″. Ch 458. (Plate XLVII, 19).

11. Cube with trefoil design on five faces and H-shaped design on another face to which is fixed a copper pin; decoration in white on orange ground. Maximum L. ·75″. Ch 412. (Plate XLVII, 24).

Terracotta Figurines, Toys, etc.

12. Terracotta toy chariot wheel. Dia. 3·35″. Ch 125.

13. Three terracotta toy chariot fragments, Ch 39, 128, 195. Ch 195 is painted with cross-hatchings in red.

14. Terracotta bull with head painted in red and neck pierced with a hole. L. 2·85″. Ch 46.

15. Terracotta bird; body painted with cross-hatches. L. 3·6″. Ch 179.

16. Terracotta 'Mother goddess' figurine. Fragment. H. 6″. Ch 239.

17. Terracotta 'unicorn' pierced with a hole at the belly. L. 2·6″. H. 2·1″. Ch 43.

18. Terracotta monkey pierced with a hole; painted in red. H. 1·8″. Ch 424.

19. Terracotta painted whistle H. 2·1″. Ch 376.

Pottery.

20. Vase. H. 2·15″. Ch 252.

21. Cup with handle. H. 1·7″. Ch 330.

22. Vase. H. 1·7″. Ch 319.

23. Painted vase with chocolate bands on red wash. H. 1·4″. Ch 298.

24. Painted vase with red slip at the neck; below, black bands, and three groups of black dots, four in each, on pink wash. H. 1·3″. Ch 206.

25. Painted vase with red bands on pink wash. H. ·9″. Ch 328.

26. Vase of elongated shape. H. 2·6″. Ch 28.

27. Vase. H. 2·1″. Ch 34.

28. Painted vase with black bands on red slip. H. 2·1″. Ch 425.

29. Perforated vase. H. 2·6″. Ch 171.

30. Painted vase; hachured *pipal* leaf, ovolos and wavy lines in the upper band and squares with incurved sides in the lower, in black on dark red slip. H. 25·5″. Ch 401.

31. Painted vase with similar designs as on Ch 401, but in the upper band figures of birds with *pipal* leaves and ovolos decoration in black on dark red slip. H. 26″. Ch 448.

32. One hundred and ninety-eight painted sherds with decoration in black on red slip. Some of the designs are:—

"Fish-scale," Ch 287, Pl. XLVII, 15; *pipal* tree and birds, Ch 87, Pl. XLVII, 18; alternate ovolos and wavy lines placed vertically in a band, Ch 343, Pl. XLVII, 17; bird and *pipal* leaf, Ch 481; flowers in semi-circular panels, and animal heads below in another band, Ch 81, Pl. XLVII, 16.

Stone Objects.

33. Mace-head ; alabaster. H. 1·9″. Ch 394, Pl. XLVII, 30.

34. Mace-head ; stone. H. 1·5″. Ch 192.

35. Weight; cubical; chert. 1·65″ × 1·2″ × 1·65″. Ch 205.

36. Mace-head ; alabaster ; with incised lozenge pattern. H. 2·45″. Ch 373, Pl. XLVII, 31.

37. Chert-flakes ; L. 1″ to 3·3″. Ch 411, 383, 355, 439, 74.

Copper Objects.

38. Knife. L. 4·35″. Ch 438. Pl. XLVII, 27.

39. Bangle fragment. Dia. 1·95″. Ch 400. Pl. XLVII, 21.

40. Chisel. L. 2·25″. Ch 66. Pl. XLVII, 20.

41. Chisel. L. 4·8″. Ch 62. Pl. XLVII, 28.

42. Spear-head. L. 7·4″. Ch 464. Pl. XLVII, 29.

The most important discoveries from the trenches at Chanhudaro are of course the three seals referred to above (Nos. 9-11) and reproduced in Pl. XLVII, Figs. 19, 23 and 26. The "shield" sign occurring on one of them (No. 9) is interesting as it occurs here for the first time. No. 10 depicts only the *pipal* tree, but no other example of this type, from Mohenjo-daro or Harappa, is so far known, although this tree itself occurs on a number of specimens.

While encamped at Chanhudaro opportunity was taken to visit a large number of mounds in the Nawabshah *taluka*, but none of them appeared to be connected with prehistoric civilization. The most noteworthy of these is Bahumjo Bhiro between Daur and Bandhi Railway Stations, which extends over about 65 acres. It is some 15 feet high and consists of the *débris* of brick-built structures in which bricks of the size of $10\frac{3}{4}'' \times 7\frac{1}{2}'' \times 1\frac{1}{2}''$ have been used. Glazed and stamped pottery fragments, the latter bearing the "circle" pattern, as well as a few copper coins were secured from this site. The mounds in Moro and Naushahro, which were next examined, included *Bhiraijodaro* near Tharushah, and those on the way from Moro to Naushahro. But they all appeared to belong to Muhammadan times. By the middle of March we arrived at Rohri in order to examine the sites of Arore and Hakrah.

There is a cluster of small mounds just to the north-east of the village of Arore along the Junojee road, which are locally known as Garhi Gor, their maximum height being not more than eight feet. A trial trench in one of these brought to light a number of carved bricks of the early mediæval period, that is the 7th or 8th century A.D., and the common belief that this part of Arore represents the pre-Arab Hindu city was corroborated. About $3\frac{1}{2}$ miles to the south of Rohri is the village of Hakrah between which and Arore flows the Nara Supply Channel. In 1855 Captain Kirky reported in connection with the excavation of this canal as follows:—"In excavating the great Nara Canal we occasionally came upon detached masses of brickwork, and at length, at a depth of about ten feet below the surface of the ground, the foundations of a very large number of houses were laid bare. ....Among these ruins were found a number of articles made of brick clay such as drinking cups,

a *Kuja*, some water spouts and a large number of children's toys."[1] This account of a lost city, buried at a depth of ten feet below the surface, prompted us to pay a visit to the village of Hakrah. An old man of the village could vouch for the correctness of the account and brought us to a spot, two miles and one furlong from the Nara Head, and pointed out the place where the 'Sahibs' had in bygone days come across a 'Bazar' in the midst of the canal. But now there is absolutely no trace of the hidden structures. There is however every likelihood that in its close vicinity may still be found on excavation the remains of an early, probably prehistoric, settlement.

The very last site visited during the season is Mathelo, seven miles to the south-east of Ghotki Station. It is about forty to fifty feet high, with the remains of a small building on the top, to which people have given the name of Mumalji Mari, the house of the legendary queen Mumal. On inspection Mathelo appeared to be nothing but the site of a mediaeval Hindu fort of which the bastions are still traceable. With Mathelo we closed for the season our exploratory journey and came to Mohenjo-daro camp where the remaining days of our stay in Sind were spent in studying the antiquities secured by the expedition.

This journey took us over nearly two thousand miles, in the course of which were examined more than a hundred mounds and old sites at about seventy places in the Districts of Karachi, Hyderabad, Nawabshah, Thar and Parkar, and Sukkur. Out of these, at only three places, the remains of the prehistoric period were brought to light, *viz.*, at Tharro hill, Amri and Chanhudaro. Tharro hill lying in the Deltaic region marks the southernmost prehistoric site so far known. Amri represents two cultures, one earlier than, and the other, co-eval with, that of Mohenjo-daro; while Chanhudaro bears the same cultural features as Mohenjo-daro, Jhukar and the later stratum of Amri. The rest of the sites, to judge from the surface remains, belong to much later dates ranging from the Gupta period to that of the Muhammadan rulers of Sind[2].

EXCAVATIONS AT HARAPPA.

By Mr. Madho Sarup Vats.

Excavations were continued at Harappa from November 1929 to the end of February 1930 and confined for the most part to Mound F and the Area H (Plate XXV).

Mound F—Trench V.

At this mound, Trench V was extended lengthwise along the northern edge to a width of 17′ and sunk to the level to which it was dug last year. The object was a twofold one, namely, (1) to ascertain whether the circular brick-on-edge structures previously discovered in this trench and in Trench IV continued in a chain and (2) to make a search for the missing parts of the red sandstone torso of the male figure No. 9042 that was found[3] in the previous year.

[1] *Sukkur District Gazetteer*, p. 43.

[2] For a detailed account of explorations, see now *Mem. A. S. I.*, No. 48.

[3] *A. S. I.*, 1928-29, p. 78 *et seq.*

Neither of the two expectations was fulfilled for though certain structural remains resembling those referred to were brought to light, they were quite fragmentary and saturated with saltpetre. The area is, however, very suitable for deep digging. Numerous portable objects were found in the course of the excavation. These include 17 seals, of which three are fragmentary, 6 sealings, a limestone *liṅgam* (10496; height 6″), a shuttle-shaped polisher (10755; 16$\frac{7}{12}$″), 7 cubical weights, 2 lots of thin discoid beads (10983 and 11446*a*), 4 barrel-shaped beads, a miniature wavy ring (10548) of faience, 37 tiny heart-shaped conch pieces for inlay (10692), a thick ivory disc with circular incisions all over (10800), a copper chisel (10719), a cubical terracotta die (10697), an animal toy with conventional horned headdress and pannier-like decoration at the ears, two bull-heads with twisted horns (Plate XXVIII, *d*, 2-3) and a group of pottery objects (No. 10797) consisting of a ring-stand with raised mid-rib, oval vase and several potsherds, with which were intermixed fragments of grindstones, river shells, two beads and some animal bones including a muzzle.

Trench VI.

As the upper strata of Trench V had yielded no substantial structure and it was not considered advisable to dismantle the fragmentary ones found in it, a new trench (No. VI) was dug from north to south for a length of 175′ near the eastern edge of Mound F which is the least elevated portion of the area and where it was expected earlier structures in a better state of preservation would be more readily revealed. This trench was gradually widened to 65 and sunk to an average depth of 10 feet. Five strata of buildings were distinguished in this trench, the upper three being, as usual, of no special importance. The fourth stratum is more substantial and further excavation may reveal more or less complete houses at this level. Of the fifth stratum, only two walls have been recovered so far.

The only structures from the upper three strata that may be noticed in passing are some floors, remnants of drains and two circular structures, one of which may be a manger and the other a store. A badly constructed room of the second stratum in the northern half of the trench yielded a bulgy vase painted with a tree, birds, nets, etc., a broken dish-on-stand, a crude vase, sherds of two long oval vases, one goblet, a pointed *lota*, a dish, one bulgy and two *handi*-shaped vases, an oval jar, and broken bits of animal bones including a fragment of a jaw. Some of the bones were charred and at one point the earth was ashy. Slightly above these objects were found, a copper lid, a chisel and a unicorn seal (11266 a-c). Along the western edge of the trench near its southern end is a fine brick-on-edge floor of the third *stratum* pointed with gypsum and originally bounded by standing bricks. In this floor are embedded seven pottery ring-stands, 7″ to 8″ in diameter, probably meant to support jars, though one of them contained a leaf-shaped faience sealing (11381). In the adjoining floor, which is only a few inches lower than this, is a hole for a similar ring-stand. In the northern portion of the trench, several earthenware jars were found in connection with the three upper strata. The area

above the jars of the third stratum yielded 69 tiny socketed frustums, mostly in black stone, 11 plano-convex bead-shaped tops of the above, a *sang-i-mūsa* pendant grooved at the head, 3 tiny balls, 20 miscellaneous beads, a conical terracotta *liṅgam*, a copper blade, a chisel, a rod and an end-piece, all within 1′ to 4′ 4″ of the surface (Nos. 11116 *a-g*, etc.). Other important finds from the three upper strata included 51 seals, 13 sealings, 5 cubical weights, one die (11201), a highly polished double-convex bead of banded agate (10820), a tiny parrot of faience with traces of red pigment in the wings (11259); copper objects comprising a lance-head (10916), a dagger (11289), a knife (10881), a chisel (11292) and a ring-stand (10824); 5 fragments of painted pottery platters (10910) one of which is holed like those found in the second stratum of burial pottery[1] and a rare inscribed brick (11343). Among the seals which deserve special mention are, one depicting a tiger with a trough placed before him (Plate XXVIII, *c*), another a Brahmani bull (10995), a third carved as a couchant hare (11268), a fourth shaped as a leaf (11305), and a fifth (11334) roughly resembling in outline a writing board (*kāshṭhaphalaka*). Attention may also be drawn to two sealings of faience and two of terracotta. Of the former, one is leaf-shaped (No. 11330) and shows a fish on one side (Plate XXVIII, *f*, 3), while the other is circular and bears a figure of a tortoise (11341) (Plate XXVIII, *f*, 2). Of the terracotta sealings one is a shapeless bit of clay dried on reeds (11393) of which it bears impression on the underside and the other a triangular prism distorted in firing (11306). On each side, the latter has a legendary scene. One face shows a man fighting with a bull whose horns he has caught in his hands (Plate XXVIII, *f*, 1*a*); the second face shows two human figures, facing each other, the right one seated on haunches and the other bending[2] on toes over a legged stool (Plate XXVIII, *f*, 1*b*). The third face probably depicts a god as indicated by excessive ornaments on his arms (Plate XXVIII, *f*, *c*).[3] Still more interesting is a rectangular terracotta sealing (2″×⅝″; No. 11466). On one face, it has engraved upon it, from left to right, a man attacking a tiger from a *machān* erected on a tree, a god sitting on toes over a legged seat, another tiger in an enclosure above, and below the left projection of it a goat (?) and a hare. In the same order on the other side are a bull by a trident-shaped post, a god, facing the animal and standing in front of a two-storeyed structure with wooden framework and latticed side. These figures are followed by a pictographic legend of three symbols (Plate XXVIII, *e*).

Major part of the trench up to its southern end is occupied by a large building of the fourth stratum, but as the western portion of the house has yet to be excavated, the plan is by no means clear. The portion so far exposed includes the north outer wall of the house and, bonded with it at right angles, the east wall with, at their point of juncture, two large rooms measuring 12′×8′ 8″ and 16′ 8″×12′, and opening one into the other. The southern room also opens on the west into what is evidently a large courtyard and on the south into a small closet, formed by leaving a space of 3′ 5″ between it and the next

[1] See *infra*.
[2] Or is it merely the squatting posture ?
[3] *Cf.* Nos. 2410, *A. S. I.*, 1926-27, p. 100, Pl. XXI, *a*, 1*a*, and 6107 and 8716, *ibid.*; 1928-29, Pl. XXXII, 8*a*, 9*a*.

room. In front of the latter is a passage 3′ wide which runs round three sides of the room and ultimately terminates in the open space where there is a well 2′ 6″ in diameter. Close to the bend of the passage is a door in the main wall opening into the courtyard and, opposite this on the other side of the passage, an isolated square room. Adjoining the door just mentioned and placed along the western side of the main wall are the remains of three small rooms, all facing the open space round the well. All along the east, the house has a retaining wall near which are two paved sinks 43′ apart. The southern sink measures 4′×2′ 10″ and is now 3′ deep. At its bottom was a 10″ layer of earth containing decayed cereals and above it some 200 pieces of earthenware vases, a female toy, a bull, a bead, brickbats and animal bones including a large haunch bone, a jaw, ribs, leg and knuckle bones, etc.

Area H. Cemetery.

Immediately due south of the Mounds D and E and 145 yards north of the Archæological Museum, Harappa, has been discovered a pre-historic cemetery on the low-lying plain extending southwards over a very large area. This area is designated H on the Survey Plan. Here the ground gradually slopes away from north to south and from west to east. Two trenches averaging 154′×110′ and 179′×53′ were dug in this area on the east and west of a modern irrigation channel to a depth of 5½′ and 7½′ respectively (Plate XXV). The only structural remains brought to light in these trenches are a few bits of stray and irregular walls at the level of each of the two strata of burials so far unearthed. In the eastern trench there is a broken culvert-shaped structure standing 2′ high with a span of 2′ 2″. Over a part of its western wing stand the remains of a corner of the later building level. Around this for about 60′ from east to west and 40′ from north to south was a thick bed of terracotta nodules from 2½′ to 5′ below the surface and further north very soft sandy soil. The area along the western and southern edges of this trench and the southern portion of the Western Trench yielded a rich collection of necropolitan pottery comprising about 110 burial jars, besides bowls, offering dishes, saucers, platters, flasks, vases, etc., which lay in separate groups over the two strata (Plate XXVIII, *a-b*). The upper stratum consisted of pot-burials which owing to their nearness to the present ground level were usually crushed to pieces and have in many cases lost their upper parts (*e.g.*, Plate XXVII, *c*). These jars vary in shape; the commonest forms being round, ellipsoid and carinated (Plate XXVIII, *a*). Their height ranges from 9¾″ to 23¾″. The round type consists of plain or painted jars: the former having the lower portion roughened by finger-tip or finger-groove patterns; the latter has a ring base and a flange round the neck (Plate XXVIII, *a*, 7). Some of these have an additional flange round the body (Plate XXVIII, *a*, 2). Smaller jars were at once finished on the wheel; the larger ones were made in two parts and then joined. The ellipsoid jars have invariably a dog-collar neck with or without a flange (Plate XXVIII, *a*, 3-6) and this feature occurs in all types except in those with the finger-tip pattern. Pots of the carinated type are all painted and flanged at neck but are much smaller in size.

They are reel-shaped in the upper portion and convex in the lower with a distinct projecting base (Plate XXVIII, *a*, 9). All pot-burials were originally covered with inverted bowls, flasks, handled lids or potsherds, the lid being occasionally also protected by a sherd (Plate XXVII, *c*).

Eastern Trench.

Plates XXV and XXX indicate the positions of the numerous pot and other burials in the Eastern Trench.

In the western half of the Eastern Trench and about 40′ west of the lot found last year were discovered two groups of pot-burials Nos. H148 'a-f' and H151 'a-b'. The former comprised six jars, of which 'd' and 'e' are round fragmentary *gharas* of medium size. The lower parts of these *gharas* are honeycombed with finger-tip patterns. Jars 'f', 'c' and 'b' survive only in the lower half, but, 'a' is complete and was covered with a tarboosh-shaped lid. It has a ring-base and flanges round the neck and body. In the lower part it resembles a hemispherical bowl but the upper gradually tapers towards the neck, where the flange is holed and grooved horizontally. Decoration in the upper portion consists of five flying peacocks alternating with rows of crab-like designs (Plate XXIX, *f*, 8). The lid has a pair of holes at the rim and is decorated with four curvilinear bowls each having two or three fishes in it. The bowls are separated from each other by stars (Plate XXIX, *f*, 10). Five feet six inches to the south-west of No. H148 'e' were found two jars, H151 'a' and 'b': the former being a medium-sized *ghara*, covered with an inverted flask and tilted northwards; and the latter an open mouthed carinated pot covered with a handled lid. Its neck flange is grooved and holed like that of H148 'a'. In the concave portion it is decorated with two rows of flying kites alternating with leafy patterns. To the north-west of jar H148 'e' lay Nos. H147 and H149, the former being round and the latter merely the body of a large jar without bottom or upper part. Further on in the same direction was a round *ghara* (H156) of fine texture covered with a handled lid like H151 'b'. Above the shoulder, it is painted with leaf patterns. H150 and H186 were found 12 feet and 15′ 9″ respectively, due west of H148 'e'. The former is ellipsoid and distorted in the lower part. Its bottom is roughly flat and the upper part tapers towards the clumsy dog-collar type of neck. It was covered with an inverted flask and has a crudely painted frieze of five conventionalised peacocks (Plate XXIX, *f*, 6). The latter jar is round and somewhat larger than the usual size. Roughly to the north of H156 were two jars H165 'a' and 'b'. No. 'a' was covered with an inverted round vase of medium size. The lower part of this is rough, but, instead of the finger-tip pattern, it has horizontal grooves such as would be obtained by passing fingers over the wet jar while it was being turned on the wheel. The other is round and was covered only with a potsherd.

About 10′ to the west of jars H156 and H165 lay, on the same level, a group of burial pottery which has been numbered H231 'a'-'i'. It consisted of three large jars, two *gharas* with the finger-tip pattern and three groups of

smaller vessels. Of these, 'a', 'b' and 'c' are nearly ellipsoid in shape while 'd' and 'i' are *gharas*, altogether smashed. Number 'a' was effectively covered with a large inverted hemispherical bowl and is remarkably well preserved. It is painted at the shoulder with two rows of flying kites separated by troughs containing leaves. No. 'b' was covered with an inverted flask and lay slightly inclined to north-east. It has the finger-groove pattern on the lower part. Between jars 'a' and 'd' was a group of smaller vessels 'e' consisting of a bowl, three saucers and one flask to the south of which was a small bulgy vase placed in another bowl broken into two pieces, two saucers and one flask No. 'f'. Two feet further south was the group 'g' comprising a bowl, one saucer with a small bulgy vase as in 'f' and two flasks on either side. Between 'a' and 'b' and at a higher level was found a fragmentary platter (No. 'h') painted with figures of fish and deer. It is necessary to note that the smaller vessels 'e' to 'h' which lay interspersed between the larger ones, are typical of the 2nd stratum of funeral pottery found in this trench at a lower level below the pot-burials being described. As the section will show (Plate XXX, 3rd row), it is only at this place that pot-burials of the upper stratum, notably H 231 'a', were laid somewhat lower down than the others, while funeral pottery of the 2nd stratum stood a bit higher up than usual. This explains the mixing up at this spot of pottery belonging to two distinct strata.

Twenty five feet to the south of H 231 was found another group extending over 13′. It has been numbered H 206 'a-k'. Jars 'b', 'h', 'g', 'c', 'd' and 'e' lay roughly along an arc and 'a' and 'f' to the west of 'e'. Jars 'a-d' are ellipsoid; 'f-h' survive only in the lower portion which is round; 'e' is smashed and has a flange round the centre like H 148 'a'; 'i' is a crushed oval vase; while 'j' and 'k' are pointed *lotas*. No. 'a' was covered with an inverted bowl and is painted at the shoulder with figures of three flying peacocks alternating with stars (Plate XXIX, *f*, 2). Placed horizontally in the body of each peacock is a human figure probably representing the *sūkshma śarīra*, or the ethereal body of the dead, being carried to heaven. Jar 'b' was covered with an inverted bowl now completely smashed. It is profusely painted in two tiers: the lower row has rows of leaves alternating with pairs of stars: painting in the upper row is more elaborate. On opposite sides of this tier there are two representations showing a bovine animal with long incurving horns on either side of a human figure with a bird's beak and wavy lines rising from his head, who has secured them by the neck with *ropes* held in his hands and under his feet. He also holds a bow and arrow in his left hand. In the left hand representation, the animal on the left is being attacked by a running dog (?) who has caught its tail in his mouth. Behind the dog are two horned peacocks in flight (Plate XXIX, *f*, 1*a*). The scene evidently proceeds from left to right where the principal representation is again repeated with some difference. To the right of the above, that is to say between the two principal representations, is a stout goat whose large horns are ornamented with eight trident-shaped crests. There is a *repetition* of the scene just described but we now find that both the animals are crested and that the left

hand one has lost its tail. Between the animals and the human figure referred to are two small peacocks (Plate XXIX, *f*, 1 *b*). The rest of the available space is filled with stars, birds, leaves, etc. This elaborate painting on a pot-burial seems to portray a definite belief in what happened to the dead person immediately after death. The goat between the two scenes is separated by leaves and stars and may be a semi-divine intermediary—a role which the animal often played in Mesopotamian mythology.

To the south of the group No. H 231 stood a round jar (H 235) covered with fragmentary round vase. Like H 148 'a', it has flanges round the neck and body. In the upper part, it is painted in six compartments with two rows of six leaves each. To the west of this and the group H 206 were found three isolated jars Nos. H 250-H 252. H 252 is a small round *ghara* with ring base and badly crushed like H 251. H 250 is painted with vertical rows of fishes, leaves, etc. (Plate XXIX, *f*, 7).

Passing over a number of groups found in this spot mention may be made of group H 154 which comprised four jars. Of these three are small round *gharas*. The fourth, 'a', is painted with three long-horned quadrupeds with prominent humps—probably bovine, and with fishes and stars (Plate XXIX, *f*, 5).

The eastern half of the trench yielded only five jars and they do not call for any special remarks.

Western Trench.

The Western Trench at the Cemetery was excavated on the other side of the irrigation channel referred to above. In its southern portion pot burials were abundant. They were found about 100′ due west of the groups H 152 to H 154 in the Eastern Trench and are numbered H 245 to H 248 (Plate XXVII, *c*). Groups H 245 and H 246 were larger than the others. The former comprised 7 jars, of which 'd-g' were completely crushed. No. 'a' which is similar to H 148 'a' is painted at the shoulder with two peacocks and stars enclosing leaves and other devices (Plate XXIX, *f*, 3). Jar No. 'b' was covered with an inverted bowl crushed to pieces. This is decorated with four designs resembling deep troughs crowned by peacock's heads separated by stars. (Plate XXIX, *f*, 4). Jar 'c' has somewhat similar decoration.

Group H 246 consisted of nine jars 'a-i', of round, ellipsoid and other shapes. Most of them are painted with figures of peacocks separated by stars, groups of crescents, deer, trees and other kinds of vegetation (Plate XXIX, *f*, 11). Other groups of similar pottery jars were found in this area. Details of painted decoration of H 346 (a) will be found illustrated in Plate XXIX, *f*, 9.

A reference to the section of the Cemetery Area (Plate XXX) will show that neither the pot-burials of the upper stratum nor the funereal pottery deposited with the dead in connection with the second or lower stratum occur on uniform levels. The variation in levels was, however, presumably due to the natural unevenness of the surface of the ground.

The shapes and sizes of the pot-burials unearthed at Harappa precluded the possibility of depositing in them whole bodies of adults or even of grown up children. These jars vary in height from 9¾″ to 23¾″ and in diameter at the mouth from 6½″ to 9¼″. Round *gharas* with the finger-tip pattern in the lower portion have the neck slightly everted so that the actual mouth cavity becomes narrower at the root. In all other cases. jars have an absolutely vertical dog-collar neck with the result that the mouth was as wide open as possible.

Altogether forty-eight pot-burials were examined this year. Of these, 29 contained bones of adults. 3 of persons of tender years, 3 of children, 7 of babies or infants, while 6 were without bones and filled only with percolated earth. The quantity of bones in jars differs very widely. As stated before, bodies of adults and grown up children were almost invariably exposed and, after a certain period, the bones that remained were collected and put in burial urns.[1] The skull or its fragments, leg and arm bones, parts of the vertebral column, pelvis, shoulder blade, some other long bones and comparatively a few small bones were all that were so deposited. Typical examples of the contents of a pot with an adult's bones are furnished by jars Nos. H61 and H245 (*a*) and of the smallest number consisting of only two fragments of a leg bone, by jar No. H245 (*c*). The former jars also show how the bones were packed in. In many cases the skull was placed on one side touching the wall of the urn, and the leg and arm bones obliquely or horizontally intersecting one another in all positions. Other bones were shoved in wherever possible. In other cases the skull was found in the centre or a little away from it. It was usually placed as in life, but sometimes also in an upside down or sideways position. As a rule, each jar contains the bones of a single individual but No. 3934(*c*) found two years ago at this very cemetery, contained three skulls.[2] Jar H154(*a*) which contained the bones of an adult showed at the centre, rising a little above the skull. a small double convex narrow-necked painted vase with splaying neck and projecting base while No. H231(*b*), with bones of a person of tender years, had two star-shaped tiny beads of steatite holed through the centre and incised with a circle on each of the two faces. Jar No. H149 deserves special notice. It is of the round type and only two-thirds of its original height now remains. It was filled with ashy earth mixed with pieces of charcoal, blackened potsherds, numerous fragments of charred and uncharred bones, and one charred bone of a bird. There were also fragments of two triangular terracotta cakes. a pointed *lota*, a dish, a terracotta ball, a piece of a bangle and a fragment of a stone pestle. The majority of the bones are completely charred. some only slightly calcinated while a number of others bear no traces of fire at all. In this case the body appears to have been first exposed, then partially burnt, before the remains were collected and deposited in the jar.

Infants or babies were not exposed. The contents of jars H83, H148(*a*), H165(*b*) (Plate XXVII, *b*) and H156 furnish clear evidence that babies were

[1] *A. S. I.*, 1927-28, p. 87.
[2] *A. S. I.*, 1927-28, p. 86.

wrapped up, almost in embryonic position, in a piece of cloth and deposited in the urn. In jar H245(*d*) were found within 6″ of the bottom, bones of a human infant and a rodent.

From the Eastern Trench were also recovered several human burials, both complete and fractional on the second or lower stratum which is marked by a total absence of pot-burials. In place of the latter we find that funereal pottery, totally different in shape, size and purpose was placed with the dead person (Plate XXVII, *e*). About 3′ south-west of the northernmost burial (No. H. 88) in this area which was removed in the previous year, was another dismembered skeleton lying roughly from east to west (No. 184k). Immediately to its east and south was a group of pottery comprising two long-necked *kalaśas* of the shape of a cocoanut, four flasks, of which one is painted, a bowl, a vase, an offering dish-on-stand, eight platters each with a pair of holes and five saucers (No. H184 'a'). Close to the latter were found the vertebral column and other bones of an animal (No. H184 'b'), and within a few feet to the south-east the leg bone of a cattle (No. H483). Six feet due south of this skeleton lay in a row eighteen flasks, one bowl and two *kalaśas* (No. H157 'a-d').

A third burial of this kind was found about 22′ west of the one noticed above. It is the skeleton of a young person (No. H501 'a'). It lay in contracted position completely on the right side with legs inflexed and close on either side of the head were lying a *kalaśa* 'b' and a bowl containing a flask 'd' and eight saucers and platters. There was also a stout offering dish near the knees.

Nearly 14′ south of the burial group No. H501 lay with legs inflexed the skeleton No. H484 'a' of a man of tall stature in crouching position from north-east to south-west. In this the position was reversed that is to say, while No. H501 'a' lay completely on the right, this was only partially turned on the left side. The broken skull lay on the left cheek and the lower jaw was in two pieces. The left hand rested over the heart and the right over the abdomen, while the legs were bent at the knees which pointed to south-east. Below the lower jaw lay a narrow-necked bulgy vase 'b', close to the right shoulder two flasks and a bowl 'c' and near the head a *kalaśa* covered with a flask 'd'. Between the *kalaśa* and the bowl were animal bones including a jaw (Plate XXVII, *d*). South-west of this at a distance of about 9′ was a fifth skeleton lying nearly east and west (No. H485). The feet, knees and left hand were missing and the skull and other bones had crumbled. No pottery was found with this burial. About five feet to the south-east of this was the fractional burial, No. H486, consisting only of the broken skull 'a', close to which were lying a *kalaśa* covered with a painted flask, a deep bowl, another small *kalaśa*, an offering plate-on-stand, a flask, a vase covered with a saucer and eleven other saucers numbered 'b'. Between burials H484 and H485 was a group of pottery comprising a smashed trough containing a small vase painted with bands, two globular vases of rough make, the smaller being placed over the larger, one complete and one broken offering plate and a smashed saucer (H487 'a-d'). Seven feet south of burial No. H485 lay the complete burial

No. H488 from north-east to south-west. It was fully stretched and better preserved than others. The feet were missing, the head with gaping mouth lay on the left cheek and arms alongside of the body. Like skeleton No. 485, it was also lying on its back. No pottery was found in this case. About a foot from the head of this lay a lump of animal bones (H507) including some teeth and a *kalaśa* covered with a flask (H508). Other burials uncovered in this area do not call for any special remarks.

From the foregoing account of the second stratum in the Cemetery it will be seen that the dead bodies were laid in most cases from north-east to south-west. Indeed, the only complete burial, that does not follow this direction is skeleton No. H88 (Plate XXV). Only two of the skeletons Nos. H484 'a' and H501 'a' were found in a crouching position; others were fully stretched. Skeletons Nos. H485, H488 and H88, and the fractional burial No. H307 'a' had no funeral pottery placed with them. A large collection of burial pottery comprising all known types, except the offering plate, was found in connection with skeleton No. H501 'a' and this may be regarded as the complete paraphernalia of the dead person. But where pots were few, they were placed, as far as possible, near the head. The commonest and therefore most important funerary vessels were *kalaśas*, bowls and flasks and less so the offering dishes and plates, saucers and platters (Plate XXVIII, *b*). The *kalaśas* vary in height from 20″ to $11\frac{3}{4}$″ and were generally covered with flasks. Almost all the *kalaśas* contained varying quantities of gypsum crystals formed at the bottom—a fact which points to their use for keeping liquids. The offering dishes are squat, strong and well made, and have raised horizontal ribs in the lower part. They are different in shape, size and texture from the offering dishes found in the mounds and in Area G. The offering plates found in this Cemetery are also different from the ordinary type found elsewhere on the site. The platters are shallow: they are generally pierced with a couple of holes at the rim and are painted on the underside with representations of deer, peacocks, trees, leaves, stars, etc. (Plate XXIX, *e*). Almost all these patterns were later reproduced on pot-burials of the upper stratum. The peacock appears to have become a more favourite device; the goat and bovine animals painted on pot-burials have not as yet been noticed on the earlier platters. The flasks which are of a very fine texture have a pear-shaped body and are in some cases painted with simple designs consisting of lines and chevrons, stars in circles or crescents.

A noteworthy feature of the Cemetery is that the whole of the Western as well as the western part of the Eastern Trench were littered with a thick layer of potsherds similar to those found in other areas at Harappa. Other portable objects of the chalcolithic culture recovered from this area were 3 steatite seals, 4 faience sealings, 2 cubical weights, a tiny conical *liṅgam* (H 95), two polished beads (H 232 and H 475), a lot of thin discoid steatite beads (H 449), a fragmentary tablet of steatite relieved with a series of five crescents (H 469) and a flower pendant, whose petals were inlaid alternately with lapis lazuli and red stone. Of the sealings, No. H441 'c' is cuboid showing an acacia tree with a platform round it on one side and two pictograms on the

opposite side. Each of the remaining two sides is incised with a dotted circle. Sealing No. H 550 is of the Boeotian shield pattern. Among other interesting objects are a faience cubical die (H 413), two rams (H 183 and H 221), a star-shaped nose-disc (H 123), a fragmentary flower (H 412), a tiny bud-shaped pendant (H 317), a narrow-necked vase of black pottery (H 218) and a fragmentary toy showing a crocodile and its young basking in the sun (Plate XXVIII, *d*, 1).

Skeletal remains ; Area G.

The skeletal remains struck last year in Trench II in Area 'G'[1] have now been cleared. Immediate danger from saltpetre did not permit of a comprehensive photograph being taken of the remains as a whole. Therefore for keeping an accurate record, two separate plans indicating the positions of all the bones and pottery were prepared. One of them showed the remains found approximately on the upper level and the other those below them or on a lower level. The plan that accompanies this account is a combination of these two plans and in it bones and other objects found on the lower level are shown in red. For convenience of plotting the whole area has been divided arbitrarily into four divisions marked I to IV on the plan (Plate XXVI). The whole find has been numbered G289, but in each division, pottery objects have been numbered alphabetically and bones numerically, the skulls being distinguished by the addition of the letter 'S' and pottery by the letter 'P'.

The skeletal remains were found pell-mell 4′ to 5′ 10″ below the surface over an area of 14′×10′ and comprised 20 human skulls, fragments of a few others, 10 lower jars, parts of vertebral columns, hips, leg and arm bones and some animal bones.

Mixed up with these human skeletal remains were large quantities of the typical Harappa pottery and animal bones including those of the cattle. Dr. B. S. Guha of the Zoological Survey of India who has made a preliminary examination of these remains recognizes among them skeletons of at least 4 adult males, 2 adult females and 2 children. No ornaments or other distinguishing objects were found with these skeletons. All heads were severed and in some cases actually heaped up. Pottery objects were ordinarily found near the skulls. It is also noteworthy that the quantity of other bones was too small for the twenty skulls laid bare.

Further details of these skeletal remains will be supplied in the Monograph on Harappa, which is under preparation.

KOTLA NIHANG.

By Mr. Madho Sarup Vats.

At the instance of Mr. H. Hargreaves, Officiating Director General of Archæology in India, I visited the village of KOTLA NIHANG KHAN, District Ambala, in the latter part of July 1929. It stands at the foot of the Siwalik

[1] *A. S. I.*, 1928-29, p. 82.

hills, about a mile to the east of Ropar and is situated upon the western part of a large mound which stretches irregularly from west to east. At the east end of this mound is a small hamlet or *tapri* of the same village. On the north, the mound is bounded by a hill stream which flows only in the rainy season, on the south by a mango garden and on the other two sides by cultivated fields. The height of the mound varies from 12′ to 30′.

Surface indications showed that the mound was once occupied by a very ancient habitation. A part of the mound has in modern times been brought under cultivation or levelled up for thrashing corn. An area of about 12 acres, however, is quite undisturbed and here, four trial trenches, each running north and south and measuring 30′×8′ were dug between the village and the *tapri*. Starting from the village they were named I, II, III and IV and excavated to 7′, 4′ 10″, 6′ and 4′ respectively. None of them showed any structural remains. Potsherds were abundant in Trench III, less so in II, scarce in I and altogether absent in IV, while natural pebbles occurred in varying degrees in several of them. Minor antiquities found in these trenches included a tiny chert weight, three goblets with pointed bases, a pear-shaped vase, a medium sized cylindrical vase, stem of a dish-on-stand, a broken ringstand, a wheel, a cup handle, a tiny handled lid, two triangular terracotta cakes and fragments of other triangular and circular ones, a number of terracotta nodules, a fragment of a ribbed faience bead, a part of a faience bangle, other potsherds, a fragment of a trough, top of a *handi*-shaped vessel with incised chevron and thick potsherds painted with black bands. Sardar Mubarik Ali Khan *alias* Mohd. Yusaf Khan, a local Rais presented to me other earthenware vases and I acquired in the village other similar objects, all found in the same mound. Only four complete bricks were found in the trenches and they measure $12\frac{1}{2}''\times6''\times3''$, $12''\times5\frac{1}{2}''\times2\frac{1}{2}''$, $10\frac{3}{4}''\times5\frac{1}{2}''\times2\frac{1}{2}''$ and $10''\times5''\times2\frac{3}{4}''$.

These antiquities include several which are identical in shape, etc., with those familiar to us from the excavations at Harappa and Mohenjodaro and thus prove the extension of the Indus Valley Culture as far east as the district of Ambala. For purposes of comparison I have photographed together four rows of objects two from Harappa and the other two from Kotla Nihang (Plate XXIX, *a-d*). No seals with pictographic writing, chert knives, terracotta toys, etc., have yet been found, but this is due no doubt to the extremely limited nature of the operations.

LALABHAGAT.

By Mr. Madho Sarup Vats.

This is the name of a small village in the Dehrapur Tahsil of the Cawnpore District and is one of a group of two villages locally known as Devagaon. I was informed by Mr. Rameshwar Dayal, who was then Deputy Collector at Cawnpore, that there was at this village a large sized figure of a red sandstone cock carved in the round and an ancient mound. I visited the place in his company in September 1929. At the north-east end of the mound is a domed

chamber facing east in which is enclosed a broken red sandstone pillar 16″ square in the lower portion and octagonal in the upper portion. The lower square portion is buried in the floor of the shrine, the octagonal portion which is visible being 6′ 8″. The pillar was taken out and cleaned and photographed. One of the sides of the octagonal portion is sculptured with various devices and scenes (Plate XXXI, *d*). The one at the top depicts a box like object between a pair of well carved swans. The box is suspended from a pole visible across the necks of the birds. A little below this is a scene depicting the sun seated in his chariot which is drawn by four horses. A female figure on the right holds an umbrella over the god's head, while the other carries a *chāmara*. The horses are shown as trampling upon a demoniac head (Plate XXXI, *c*) possibly representing the demon of darkness and below this head are shown three female figures profusely ornamented and standing upon a double row of 13 dwarfish demons. In these three female figures we must recognise the three wives of Sūrya, *viz.*, Ushā, Pratyushā and Chhāyā. Next below we notice a well carved peacock and below this again an elephant facing left and trampling upon lotus flowers (Plate XXXI, *f*). The lowest scene represents Lakshmī standing, facing left, receiving her usual shower bath from a pair of elephants. To her proper right is a pilaster emerging from a pot supported on the head of an atlante and crowned by a figure of a cock. From this it is obvious that the large figure of a cock carved in the round referred to above, must have served as the crowning feature of a pillar or pilaster. One short epigraph in characters of about the 1st Century B.C.[1] is engraved upon the face of the pillar adjoining the one on which these reliefs occur. It represents '*kumāra vara*..........' (Plate XXXI, *c*). Another small inscription is inscribed vertically on another face of the pillar, of which..........*chandra*........*sya*......can only be made out.

The figure of the cock in the round mentioned above (Plate XXXI, *b*) is of the same red sandstone of which the pillar just described is made. Between the feet of the bird is a mortice 6″ in diameter which obviously held the tenon of the pillar to which it belonged. Mr. Rameshwar Dayal acquired at the village of Lalabhagat a copper coin which has been identified as one of Sodasa the well-known Satrap of Mathura of about the 1st Century B.C.[1]

The cock was regarded as an apotropaeic of the Iranians, as herald of the dawn in India and as the sun-bird by the Greeks. It is found represented on monuments of the late Persian period in Babylon and also appears on the reverse of coins struck by Sophytes (Saubhuti) king of the Salt Range about 305 B.C.[2]

DUMAPUR.

By Mr. Madho Sarup Vats.

About a mile and a half from Lalabhagat is Dumapur, a hamlet of Tipatia, where under a tree lies an octagonal fragment of the shaft of a pillar (Plate XXXI, *a*). Near its existing upper end is tied to the shaft with a rope a tapering post which bifurcates at the top, but what hangs from its ends is not clear

[1] The characters are obviously assignable to about the 3rd Century A. D. *Ed.*

[2] Smith's *Catalogue of Coins in the Indian Museum*, Plate I (*i*).

The rope is wound three times round the shaft but has only one knot. The pillar resembles in some respects the two sacrificial (*yūpa*) posts[1] from Isapur now in the Curzon Museum of Archæology at Muttra, but its purpose remains uncertain.

SHER SHAH'S BAOLI AT WAN BHACHRAN.

By Khan Bahadur Maulvi Zafar Hasan.

At the instance of the Deputy Commissioner, Mianwali, the well, known as SHER SHAH'S BAOLI at WAN BHACHRAN in the Mianwali District (Plate IV (*a*)), which had been suggested by the Local District Board as worthy of protection as an ancient monument, was inspected during the year. The Baoli which is constructed of brick, runs from east to west and a long flight of steps leads down to the water level. These steps are unroofed above to a distance of some 80 feet but beyond that they are covered with domes and arched roofs. The latter near the well, which forms the western end of the Baoli, have partly given way, otherwise the monument is in a very fine condition. According to the local tradition it was built by Sher Shah, who was responsible for founding the town of Khushab in the locality. The tradition receives no support from history or inscriptions but from the style of architecture the building can be assigned to his period. The entrance to the Baoli is marked by two *minars*, which form an unusual feature as they are not found on any other Pathan or Mughal Baolis. The building which is Nazul (Government) property has been declared a Protected Monument under the Ancient Monuments Preservation Act of 1904, and has been added to the list of monuments in the Punjab maintained in this circle.

Shujabad.

After his visit to Shujabad in October 1925, His Excellency Sir Malcom Hailey, the then Governor of the Punjab, directed that the use of the JAHAZ MAHAL at SHUJABAD in the District of Multan as Tahsil office should be discontinued as soon as new rooms were ready for the Tahsil office and that the building should be kept as an archæological monument. During the last touring season the Archæological Superintendent in charge accordingly inspected the building in question and reported on its condition.

According to the three Persian inscriptions on the western wall of the eastern compartment of the buildings the palace was built in 1223 A.H. (1808 A.D.) by Nawab Muzaffar Khan, the son of Nawab Shuja Khan, who was responsible for founding the town of Shujabad, called after him. The reasons for naming it the Jahaz Mahal are unknown, there being nothing particular in the design of the structure suggesting the title. The building is a square block and consists of an octagonal room in the centre surrounded by four eight-sided chambers on alternate sides of the central room and a similar number of appartments of irregular shape in between. In the centre of the middle room is said to have been a fountain, which has disappeared since the building has been in use as

[1] *A. S. R.*, 1910-11, Plate XXIII.

an office, and in its place now stands a square platform with a wooden railing, appertenances of the Tahsildar's court. In the centre of each of the four outer walls of the building is a doorway with a window on either side. The compartments surrounding the central room are double storeyed, their roofs being at the same level as that of the central room. Under the western compartments there were *tahkhanas* (underground chambers) which have now been closed up. It is also stated that there was originally a room on the upper storey of the building (possibly the central room) but being considered unsafe was removed some time ago.

The most interesting feature of the palace is its beautifully carved wooden ceiling and colour paintings, representing cities and palatial buildings, on the walls of the western room (Plate III, (*b*)). Unfortunately these paintings have suffered much from periodical white-washing, which at places entirely hides them from the view. The ceiling also is not well preserved being broken at various places and repaired injudiciously with unsightly wooden planks.

Architecturally the building is of little importance, but the remains of its mural decoration and the fine wood work of the ceiling deserve attention. At the same time, too, it is not entirely devoid of historical interest, having been constructed by a Local Nawab, who was one of the most prominent men in the Punjab before the advent of the British rule in that Province. In short the palace deserves consideration and preservation. It is not, however, of sufficient architectural or historical interest nor is it of sufficient antiquity, being only a little over 100 years old. to warrant steps being taken to preserve it from Central Government funds.

EXCAVATIONS AT NALANDA.

By Mr. M. H. Kuraishi.

In continuing the excavation of the Buddhist site of Nalanda in Bihar, a sum of Rs. 15,010 was spent in the year under review against a total grant of Rs. 15,000.

MONASTERY SITE NO. 7.

The area contains three main monasteries built one above the other. The topmost structure was unearthed during the year 1927-28 and in 1928-29 excavation was carried down to the middle structure which coincides with the Devapāla stratum, in the cells on all four sides of the monastery and also in the verandah in front of them on the south side. During the year under report, the excavation was continued to the same stratum *i.e.* the Devapāla stratum in the south half of the east and west verandahs and in a part of the centre courtyard, and to the third or pre-Devapāla level in the south verandah and a quarter of the courtyard contiguous to this verandah. In the main entrance

the topmost level has been maintained in the north half; the south half has been exposed down to the 2nd level.

At the east end of that section of the centre courtyard which has been excavated to the 2nd level, were discovered the remains of a couple of cooking *chulhas* and the base of a structure which probably served as a portico in front of the main shrine. These structures, however, belong to an intermediate level between the 1st and the 2nd or Devapāla level of this monastery. No trace of the usual *pakka* brick pavement was discovered on the second level.

In the pre-Devapāla edifice the centre courtyard is paved with bricks as usual; and near the south-east corner, built about 8 feet away from the parapet of the east verandah, is the south wall of a structure which from its size and position appears to have been a subsidiary chapel in front of the main shrine.

No antiquities of any importance were recovered from this site; no well has yet been found in the courtyard.

MONASTERY SITE NO. 8.

The excavation of this monastery was taken up in the latter half of the year under report and the topmost and the second or Devapāla level structures were completely exposed. The monastery on the second level consists, as usual, of a spacious brick-paved courtyard in the centre surrounded by colonnaded verandahs with rows of monks' cells at the back on all four sides (Plate XXXII). The main shrine occurs, as usual, in the middle of the east side and the main entrance in the west row opposite the shrine. On either side of the entrance is a store room; and in the north-west corner of the court a well.

The main shrine in the middle of the east side contains no platform or pedestal; but a beautiful stone statue of Avalokitesvara, 3'-9" high, was recovered from near its centre.

The open spaces generally found in the corners of the verandahs in other monasteries were, in this monastery, blocked up at a slightly later period of occupation to form separate cells. From one of these extra cells, *viz.*, that in the north-west corner, were secured 6 bronze statues of Buddha and Bodhisattvas and these will be found described at page 201 below. A feature of special interest in this monastery is the existence in a cell in the south-east corner, of the original masonry above the missing wooden lintel of the door frame.

Another interesting feature of this monastery is a large subsidiary shrine in the east half of the court, some 10 feet away from the parapet of the east verandah. The north and east faces of the original plinth of this shrine are decorated with a row of squat pilasters with little brackets in between. Above and below this row of pilasters, the plinth shows simple mouldings; and some of the little brackets referred to are covered over with lime plaster and embossed with lotus flower patterns.

From large quantities of ashes and charcoal found all over the courtyard, verandahs and cells, it may safely be inferred that the monastery was destroyed

by fire. But since all the 8 bronze objects recovered from this monastery were found lying close to one another in a single room, it is not unlikely that the building had been deserted by its occupants before its destruction by fire. It is also obvious that as several of the cell walls are standing up to the roof level with no traces of any later walls upon them no regular monastery was ever built upon its remains in later times. To judge from the style of the stone and bronze images found in this monastery and also from the level of its brick-paved courtyard it seems likely that this monastery belongs to the Devapāla period. This monastery was presumably two storeys high.

The only remains of the topmost structure that have survived consist of traces of a concrete pavement over the east end west end cells of the south row, a few bits of walls here and there over the cells of the same row, and a large room in the south-west corner. The west wall of the last mentioned room passes over the lowest step of the stair which originally gave access to the roof of the earlier monastery and which it thus blocks up.

THE PASSAGE BETWEEN MONASTERIES 4 AND 6.

This passage was cleared of *dêbris* right down to the level of the thresholds of the door openings found at the west end. Similarly the mass of *débris* in the original passage between monastery No. 1 on the south and monasteries 4 and 5 on the north, was removed right down to the level of the lowest step of the large stair giving access to the topmost structure of monastery No. 4. A doorway, 7 feet high by 4 feet wide, was cut through the east wall of monastery No. 5 at its junction with the north wall of monastery No. 1, in order to connect this passage with the new approach road to the site.

APPROACH ROAD.

With a view to facilitate access to the Nalanda site, a strip of land for an approach road from the District Board Road on the east was acquired in the previous year. This year the road was laid out, its earthwork completed and two *pucca* culverts constructed for drainage of rain water.

ROCK PAINTINGS AT HOSHANGABAD.

A survey of the pre-historic and later rock paintings existing in this Circle was undertaken at the instance of the Director General of Archæology in India. A beginning was made with the Hoshangabad District, where the existence of such paintings in the Reserve Forest was reported by the Divisional Forest Officer. The paintings photographed this year are all found on the smooth face of a large detached rock lying at the extreme east end of the Adamgarh quarry near Hoshangabad, and represent hunting scenes. A most interesting feature of the hunt is that while the male buffaloes are being attacked by horsemen and footmen armed with spears and swords, the females and calves have all been driven into a large enclosure. Above the scene representing the hunt

are detached figures of several animals prominent amongst which is a figure of a giraffe which shows a peculiar inclined protuberance at the junction of the neck and shoulders, supposed by some to represent wings. Below the hunt scene are figures of warriors armed with bows and arrows. A *sambhar* appears in another place. Some of the paintings seem to have been retouched in recent times.

EXCAVATIONS AT PAHARPUR, ETC.

By Mr. K. N. Dikshit.

In the main temple at Paharpur the work of examining the interior of the central chamber at the top was undertaken during the year. The walls of the chamber had already been excavated up to 25 feet in the season of 1927-28 but as it was considered desirable to dig down to the level of the outside ground, the work was carried on to a depth of over 71 feet from the top, special arrangements such as scaffolding and pulley having been made for the purpose. The brick masonry of the chamber walls was in better preservation in the lower portions. The inner ends of the three niches seen in the walls of the north, east and south antechambers were found to have been protected with brick-work a few inches in depth. The filling in the central chamber consisted of columns of *débris* alternating with masses of dark earth. The dimensions of the chamber were found to be 12′ 6″ square at a depth of 30 feet as compared with 13′ 6″ at the top, a slight outward bulge being thus noticeable in all the walls. At the depth of 38 feet four square platforms from 2′ to 3′ square were brought to light at the four corners and about 3 feet lower down the walls came to an end with nine regular offsets descending towards a finely laid brick floor 6′ 6″ by 6′ 2″. It is noteworthy that the bricks used in the floor are 3″ in thickness while those of the first offset are as much as 4″ in thickness. An interesting view of the floor taken from the mouth of the pit looking downwards will be found in (Plate XXXV, *d*). The platforms which are composed of only a few courses of bricks are built at a level roughly corresponding to that of the ante-chambers and *maṇḍapas* outside. As no relics or other foundation deposits were found on the floor, it was decided to dismantle part of it to ascertain what lay beneath it. Instead of the loose *débris* and earth found above the floor, 18 carefully laid courses of full size burnt bricks super-imposed on several feet of regularly laid layers of brickbats were revealed by the excavation. A feature of some interest in the lowest part of this foundation masonry was an 8″ square aperture at the centre which continued well over 10 feet in depth. The rough construction of this aperture indicates that it was not meant for a relic chamber. The expectation that the examination of the lowest strata at the centre of the building might reveal, as in other Buddhis monuments, indications of an earlier and smaller structure, was not fulfilled in the case of the Paharpur temple. On the other hand, finds of the usual kinds of terracotta plaques and ornamental bricks similar to those used in the construction of the main building even at a depth of 70 feet prove that the entire super-structure

from the foundation upwards was erected at a period not earlier than the seventh century to which the stone images and terracotta plaques have to be assigned. In this respect Paharpur offers a striking contrast to Nalanda, where the great temple has been found to contain evidences of no less than seven successive integuments covering an ever-extending area and attributable to a cumulative period of not less than 4 to 5 centuries. In Paharpur the main fabric of the temple is apparently to be attributed to one period only, *viz.*, the 7th-8th century A.D., although traces of subsequent alterations and repairs can be assigned to the 9th-11th centuries A.D.

The monastery surrounding this lofty temple was planned and constructed on an equally large scale with the central temple and, during the year under report, over 120 rooms on the north, west and eastern sides were exhumed. The earliest monastery at this site must have been built by the end of the 8th or beginning of the 9th century A.D., when Buddhism was again flourishing in Bengal under the royal patronage of the early Pala emperors. The original enclosure walls of the main temple, which were exhumed this year, were at a distance of 17 feet from and generally parallel to its basement walls. A carefully built covered brick drain at the ground level carried off the refuse water from the higher terraces of the temple, which are provided with stone gargoyles. No drain or any other structure which can be attributed to the date of the original construction of the temple has so far been discovered in the area intervening between the enclosure walls of the temple and the outer monastic quadrangle. The discovery of landings exactly in the centre of the western and eastern sides of the quadrangle irrespective of the position of the central monument (Plate XXXV, *c*), also points to the conclusion that the central temple and the surrounding monastery were not built simultaneously. As the entire establishment at Paharpur is designated in inscriptions as the great Vihara of king Dharmapala at Somapura, it is obvious that the construction of the monastery must be attributed either to Dharmapala or to his son Devapala who, according to Taranatha, built a lofty Vihara at Somapura.

Although the first monastery on this site was built in the beginning of the 9th Century A.D., there are clear indications of repairs and restorations carried out in three subsequent periods. It is remarkable in this connection to note that a 12th century inscription[1] recently found at Nalanda records that a Buddhist monk of Somapura carried out extensive repairs to the four monasteries. The general plan of the building consisting, as it did, of series or rows of cells (about 13′ 6″ square) each with an anteroom at the back and a broad verandah in front, was adhered to throughout the period of its existence. Generally speaking the second period (about the 10th-11th century A.D.) was the most flourishing period of this establishment; while the repairs of the latest period mostly of a very superficial nature indicate that the monastery had fallen on evil times. The discovery of a number of coins of Sher Shah and Ismail Shah in the uppermost strata on the western side of the monastery probably only indicates that the ruined site was selected for hiding a treasure in the

[1] *Ep. Ind.*, Vol. XXI, p. 97 ff.

troublesome times that preceded the Mughal occupation. Usually, however, the remains met with on the surface of the monastery belong to the 12th century A.D. Under the latest floor lie rooms and floors of the 2nd period built in a very substantial manner with well-beaten concrete floors and broad doorways with a distinct inward splay, which the last builders had perforce to block up, owing probably to their inability to provide doors of the previous size. The floors of the 2nd period are generally better constructed than those of either the earlier or later ones, but the use of about half the total number of the rooms for non-residential purposes is apparent from the elaborately ornamented brick or stone pedestals that have remained in them. It is not easy to say whether in the earliest monastery on this site a similarly large number of rooms was set apart for devotional purposes. The evidence so far available inclines me to think that in the original monastery of Dharmapala almost the whole of the accommodation was set apart for the residence of monks. Of the image pedestals referred to above the most elaborate and ornamental examples are those in the western cells of the monastery. They are generally constructed of brick, beautifully chiselled and arranged in a variety of designs in the lower portions. Stone pedestals also occur here and there. The photograph in Plate XXXVI, *a* will give an idea of the construction of these pedestals, especially of their front faces. Mention may also be made of square mortice holes in the centre of some of these pedestals, which were meant to hold the tenons of the images installed upon them. In one room I noticed a number of circular holes cut in the floor in front of the pedestal showing the occasional use of temporary awnings over the image on special festive occasions. It is noteworthy that no images representing Buddhist or Brahmanical gods were discovered *in situ* during the excavations on the western side of the monastery; nor were any stone or metal images of a size commensurate with that of the pedestals, discovered elsewhere in the building. It may, therefore, safely be inferred that most of the images worshipped in this monastery were removed by the monks when evacuating the place. The few stone and metal images actually recovered this year belonged mostly to the Hindu faith. One small metal image represents a Jaina Tirthankara.

In the monastery area, this year's work linked up the areas previously exposed in the middle of the northern, eastern and western sides with each other and with the area in the south-west corner exposed by the Calcutta University's excavations of 1923. The north gate which was evidently the main gate of the monastery, was different in plan from the other two that have since been brought to light. Each of the latter appears to contain a central block of three rooms surrounded by a circumambulatory passage and distinguished by well-marked projections on the exterior face and by a broad stairway leading to the courtyard on the inside (Plate XXXV, *c*).

The excavation of the outer wall of the monastery on the west, north and east sides reveals the fact that except at one or two points in the north-east sector there was no other means of access of to the interior except through the pillared hall in the north gateway. There are signs of repair and wholesale rebuilding

of, or additions to, the outer rampart wall, but the alignment remained almost identical throughout. The anterooms of the monastic cells, which appear to have been built at a higher level than the cells themselves must have been in the nature of lofts, closed by the solid block walls. In an isolated instance, namely, in room No. 136, on the west side the existence of a low vaulted chamber, 4′ in length, has been revealed in the ante room of the cell. This may have been approached from outside, but, generally speaking the strong outer rampart wall of this monastery must have prevented all kinds of intrusion from outside. On the north side, the exterior of the rampart wall shows between rooms 15 and 16 a stone threshold and door opening which provide valuable evidence regarding the different periods of occupation of the monastery. The original level at this place is indicated by the concrete floor of the passage which is coeval with the stone door-sill. The second period is indicated by the blocking up of the original entrance and the renovation of the doorway with a splayed opening at a higher level. Inside, the small guard rooms flanking the passage on the east were superseded by small niches on the west and after another renewal at a later period, the entire passage was filled up and the room brought on to the same level as the monastic cells at the latest period of the monastery.

That the inner wall of the monastic cells also underwent successive changes is clear from the excavation of the verandah floor in front of rooms 120-122. Here the two doorways of an earlier structure stand isolated without any connection with the recessed foundations of the latest monastery or with the stone outlet of the later rooms (Plate XXXV, *b*). In places there are brick pillar bases at regular intervals in the original verandah which it would not be unreasonable to assume, supported some kind of a railing. At the north-west corner the inner retaining wall of the verandah in the latest period has stone slabs which also seem to have served the purpose of supporting a roof on pillars. The walls of the cells are as usual plain though at some places the verandah walls were decorated with rows of terracotta plaques similar to those on the main temple. One of such plaques noticed in front of room No. 33 shows a curious bust with ears pointed upward.

The structures excavated inside the courtyard on the north-east and north-west appear to be of a subsidiary character. Those in the north-west quadrant are close to cells Nos. 163-174 on the north side. They are all enclosed within a boundary wall running parallel to the verandah. Special attention may here be drawn to a structure of an uncommon style, though several similar structures have subsequently been found at Paharpur. It was found in front of room 163 and consists of a well built floor supported upon a series of low corbelled vaults (Plate XXXV, *a*). The only suggestion I can offer is that this mode of construction was adopted to prevent moisture reaching the shrine or other structure that rested upon it.

Among portable objects found during the year the most noteworthy are stone images of Revanta, the hunting god, and Manasa, the snake goddess; metal images of Uma-mahesvara, Ganesa, and a Jaina Tirthankara (Plate XXXVII, *a-c*) and the lower part of a stone pillar, 2′ 7″ in height, bearing a

votive inscription in proto-Bengali characters of the 11th century A.D. Mention may also be made of a terracotta plaque which presumably represents the baby Krishna stealing butter from his step-mother's churning pot. A large number of ink pots mostly of burnt clay were found, also a number of pottery *gharas* full of shell lime, which latter may have been meant for stucco decoration. The excavations also revealed jars filled with *couri* shells which were the usual medium of exchange during the Pala period. Other jars appeared to have been fixed into the floors of the cells for the storage of grain, etc., but very little of real value seems to have been left behind when the monastery was evacuated.

A small isolated mound close to the masonry *ghat* on the south-east of the Paharpur monastery was excavated during the year and revealed the existence of a late temple dating probably from the early Muhammadan period. It consists of a rectangular hall or mandapa with an octagonal brick pillar base in the centre and a small room at the west end which may have been the shrine.

MAHASTHAN.

No further excavations were undertaken at this site during the year under report. Among antiquities brought to light by the rains was a small fragmentary terracotta figure of a female, presumably a Yakshi, which must be assignable on grounds of style to the Sunga period. The figure has a perforation at the top for attachment to something. No structural remains of an earlier date than the Gupta period have so far been unearthed at Mahasthan, but that it dates from the Maurya period and represents the ancient city of Pundra or Pundravardhana has been established by the recent discovery of a valuable inscription among these remains.

RANGPUR.

A Sahitya Parishad or local literary society maintains at this place a small museum in which several interesting images have been brought together. Of these a copper image of Durga and an early stone image of Vishnu of a different type to any found elsewhere in Bengal deserve a special mention (Plate XXXVI, *b*). Vishnu has the usual attributes in his hands but the *chakra* or disc is held in the lower left hand in a peculiar manner. The approximate period of this sculpture would be 6-7th century A.D.

At the house of Mr. Nalini Mohan Roy Choudhury, the Zamindar of Tepa, District Rangpur, I saw a number of interesting images. Most of them were probably collected outside Bengal. One of these images represents a four-faced Harihara which dates from the 11th or 12th century A.D. The front and rear heads are those of Vishnu and Siva respectively; the side faces represent the Varaha and Narasimha incarnations of Vishnu (Plate XXXVI, *c*). The head of Siva is shown in his terrific aspect as characterised by the third eye, a fang issuing from the mouth, and protruding eyes. This collection also includes a miniature model temple showing the Sun-god, Vishnu, Siva with his consort Gauri and a *linga* on the four sides respectively.

Murshidabad.

At Kandi which is the headquarters of a sub-division in the Murshidabad District there is a temple dedicated to Rudradeva in which an old Buddhist image of the 9th or 10th century A.D. is being worshipped as a Hindu deity. Two single-cell Siva temples of the typical Bengali curved cornice type of the 16th-17th century A.D. flank the passage leading to the more modern shrine where the image is worshipped. The image in question is one of the typical Buddha figures with the eight great scenes from his life depicted in the style of the Eastern School of sculpture.

Panchathupi, a large village in the Kandi sub-division, was visited during the year for examining a mound locally known as Barkona Deul. It measures about 170 feet by about 85 feet in width and is 15 feet high above the surrounding level. Several structures which are distinctly visible in the mound appear to belong to the Pala period. The mound has been recommended for protection under the A. M. P. Act. In the Kalibari at the same place an interesting black basalt image of Durga (height 2′ 6″) is fixed in a *pucca* platform. The image is seated in the *lalitasana* posture and holds a rosary, vase and *trisula* (?)

EXPLORATION IN ASSAM.

By Mr. K. N. Dikshit.

The earliest monuments in the Assam valley are undoubtedly to be sought for in the localities where the foot hills of the surrounding ranges throw offshoots, washed by the mighty Brahmaputra as it turns westward before it debouches into the plains of Bengal. The most important spot along the bank of the Brahmaputra that has maintained its importance throughout the history of the province is the vicinity of Gauhati and the sacred Kamakhya hill, well known as the gates of Assam, where the hills close on the river on either side and provide a permanent bank for the settlement of the earliest colonists. Another picturesque spot on the river bank, further west, where the Brahmaputra touches the fringe of the forest-clad hills of Goalpara on the north is Jogighopa, so known from a number of caves or cubicles cut into the granite rock, which though in hand for conservation for a number of years were first inspected during the year under report. Of all the caves, the easternmost which is No. 5 is the best preserved. It measures 7′ 4″ in breadth, 6′ in depth and 6′ 5″ in height, and has a roughly rounded ceiling and in front a verandah 25′ long by 11′ broad The platform of brick and mud masonry in the centre of the cave, said to be dedicated to Kali, is undoubtedly of modern construction. A chase running across the entire breadth of the cave on the top serves to drain away rain water from the façade. Cave No. 4, which is almost inaccessible, is 5′ deep by 5′ 7″ broad at one end, but only 4′ 8″ at the other. It has an entrance 4′ high. Cave No. 3 is a broken excavation, situated midway between Nos. 4 and 5 on the one hand and Nos. 1 and 2 on the other. Of the latter which are situated close to the village and the steamer ghat, No. 1 was seriously damaged by the

great earthquake of 1897 (Plate XXXVI, *e*). No. 2 which is trapezoidal in shape is 5′ in depth and has a platform cut into the rock for enshrining an image. A narrow opening, 2′ 9″ in front, gives access to the cave but the roof is only 3′ 8″ high. Flights of steps have been cut into the rock on either side and a ledge on the top diverts the rain water from the face. These excavations appear to be coeval with those at Paudu and the earlier excavations on the Kamakhya hill which date from the 9th-10th Century A.D.

Two other antiquities inspected in Assam during the year deserve mention. At a picturesque spot at the foot of the Kamakhya hill, a short distance over a spring to the left as one enters through the first curved cornice doorway, there is a short Persian inscription which reads '*Chashma-i-Khizr lab-i-hayat*', meaning 'the spring of Khizr, the source of life'. It must have been inscribed under the orders of a Mughal grandee at Gauhati in the time of Emperor Aurangzeb. The other monument is a seated rock-cut figure of Ganesa at the landing *ghat* between the Chummery and the Mission mounds at Tezpur. It is 3′ in height to the top of the trefoil arch and holds sweetmeats, flowers or sprouts and *pāśa* in three hands, the fourth being disposed in the *varada* or boon-bestowing attitude. The gargoyle and the chamfered pillars at the side point to the 9th-10th century as the probable date of the -image. The entire figure has been bedaubed with red by the local worshippers, who have erected a corrugated shed over it.

EXCAVATIONS AT NAGARJUNIKONDA.

By Mr. A. H. Longhurst.

The excavations carried out at Nagarjunikonda during 1929-30 brought to light two more important *stūpas* (Nos. 6 and 9), two large monasteries (Nos. 1 and 4), a number of inscriptions, many beautiful bas-relief sculptures and carved pillars and stone beams.

STŪPA 6 is situated about three furlongs to the west of the Great Stūpa built by the lady Chāntisiri and described in the Annual Report for 1928-29. It seems that in 1927, Mr. M. Hamid Kuraishi partly excavated Stūpa 6 but found nothing of interest except a few bas-reliefs. Before leaving, he covered up the *stūpa* and sculptures with earth and débris, apparently for safety, so that when I visited the site, the following year, I found the mound covered with grass and weeds and nothing to indicate that it had already been partly excavated. It was not until last year that I was able to thoroughly explore the mound and it was well that I did so, as two important discoveries were made. The *stūpa* was built of brick in the usual form of a wheel and measures 40 feet in diameter. Originally it was faced with carved limestone slabs of the usual kind. A few of these and a broken stone beam decorated with carved panels illustrating the chief events in the life of the Buddha were recovered and removed for safety to the large sculpture enclosure which is now maintained at Nagarjunikonda with two watchmen specially appointed to look after the ruined buildings and antiquities discovered. The few sculptures recovered from Stūpa

6 are much worn and mostly broken. The vertical slabs which encased the drum of the *stūpa* are carved with the usual representations of *stūpas* and figures of worshippers standing at the foot of pillars supporting Buddhist symbols, such as a wheel or a *stūpa*. The bas-relief panels carved on the stone beam portray the birth of the Buddha—Queen Māyā's Dream; Casting the Horoscope; and the Birth and Seven Steps. In these sculptures, the Seven Steps are depicted on a long cloth usually supported by four male figures dressed like princes, who apparently represent the gods who watched over the Buddha's birth. As usual, the *stūpa* had on each of its four sides a projecting rectangular platform on which was a group of five lofty stone pillars, called *ayaka stambhas* in the inscriptions. The beams are always found in front of or near these *ayaka* platforms, and, in all probability, formed the cornice stones of these platforms. Or they may have formed the single transoms of the *toraṇas* or gateways on each of the four sides. But this seems unlikely as no pillars have been found that could have supported them in this position and they were certainly not set up on brick piers or the foundations would have remained. I am inclined to think that at Nagarjunikonda, the *toraṇas* and railings were of wood and have long since disappeared. The railings could not have been of stone, otherwise some trace of them would be forthcoming. The same remarks apply to the *toraṇas*. Not a single pillar has been found that could have been used to support the transoms. We may therefore conclude that these carved beams originally adorned the platforms which faced the four gateways of the *stūpa*. They measure from 10 to 12 feet in length and are about a foot in thickness and carved on one side only which indicates that they were built into some structure such as the platforms in question. Had they been used as transoms for *toraṇas*, they would have been carved on both sides, as at Sāñchi. In these Āndhra Stūpas, it is quite clear that the *ayaka* platforms were regarded as the most important feature of the *stūpa* and all the best sculptural work was lavished upon them. In the centre facing the entrance, was usually a bas-relief image of the Buddha in one of his conventional attitudes, the Turning of the Wheel of the Law or First Sermon being the most popular at Nagarjunikonda. Four of the *ayaka* pillars belonging to Stūpa 6 are ornamented with crudely executed figures of the Buddha Preaching (Plate XXXVIII, *a*). As a rule, the pillars are quite plain, but they are sometimes inscribed like those belonging to the Great Stūpa. The inscriptions show that the pillars were gifts and the names of the pious donors are recorded but no inscription has so far been found explaining the meaning of these groups of five pillars facing the cardinal points. The crude figure of the Buddha in an attitude of teaching, carved on the base of the pillar shown in Plate XXXVIII, *a*, clearly shows that it was set up in commemoration of the First Sermon. Again, the Madras Museum contains the base of an *ayaka* pillar from the Amaravati Stūpa decorated with a *stūpa* symbolising the Buddha's death (Plate XXXVIII, *b*). Of the many beautiful sculptures recovered from the Amaravati Stūpa none are finer or more interesting than the one shown in Plate XXXVIII, *c*. It gives us a good picture of an Āndhra Stūpa in all its glory and clearly shows the posi-

tions of the *ayaka* platforms. But the most interesting feature about this wonderful bas-relief is that the meaning of these groups of pillars is revealed to us for the first time, for here, we find the bases of all the *ayaka* pillars of the front platform decorated with conventional emblems denoting the chief events in the Buddha's life (Plate XXXVIII, *d*). The two sacred trees probably represent His Birth and the Sambodhi, the two wheels the First Sermon and the Stūpa in the centre His Death. We know that the great Aśoka set up pillars to mark the sites where these great events are said to have occurred and there seems little doubt that these *ayaka* pillars have a similar meaning. The sculptures too, both from Nagarjunikonda and Amaravati, show that the Āndhra Buddhists regarded the leading events in the history of the Buddha as five in number, and these were—His Birth, the Going Forth, the Sambodhi, the First Sermon and His Death. These five scenes are portrayed in the bas-reliefs over and over again, particularly in those which adorned the *ayaka* platforms.

A remarkable feature of the stone faced *stūpas* unearthed at Nagarjunikonda is the number of carved slabs which are missing. For instance, the only slabs and beams recovered from Stūpa 6 are those shown in Plate XXXVIII, *a*. Originally there must have been four long beams and at least two dozen upright slabs. Had there been a neighbouring town or village close at hand, as at Amaravati, their disappearance would cause no surprise, but in this case, they were not removed for modern building requirements and they do not seem to have been broken up on the spot or some signs of such vandalism would have remained. Many of the slabs and almost all the *ayaka* pillars are broken, probably the work of treasure-seekers who dug pits in the centre of the *stūpas* and undermined the *ayaka* platforms in their search for buried treasure. However, the broken stones remain to show what happened; it is the total disappearance of so many of the slabs that causes surprise and one wonders whether they really ever existed, or whether the gaps in the stonework were not filled up with stucco ornamentation. The *stūpas* were certainly not faced with stone from top to bottom. It was only the walls of the drum, the *ayaka* platforms and the base of the dome itself that were encased in stone. Above the springing of the dome the brickwork was covered with plaster and decorated in that material. Had the top of the dome been faced with stone, some of the many hundreds of carved stones required for the work would have remained but not a single stone has been found that could have been used for this purpose. The slabs were bedded in mortar against the brickwork and the spaces and the faults filled up and rectified in plaster. In a domed edifice like a *stūpa* it is obvious that upright slabs could not have been used above the springing of the dome, so we may safely conclude that this portion of the monument was executed in plaster. The *tee* was probably of brick and the umbrellas surmounting it of wood or metal. Several pieces of stucco ornament were found, proving that this style of decoration was employed not only to the *stūpas* but also to the monasteries and it seems probable that some of the panels were executed in this material when the builders ran short of stone or it was found necessary

to expedite the work. Since the *stūpas* were always given a coating of white-wash or thin plaster on completion, it made no difference to the appearance of the bas-reliefs whether they were executed in stone or stucco. The stucco antiquities recovered from the Gandhāra monuments show that the latter were also finished off in plaster. The interiors of the great rock-cut monuments at Ajanta and elsewhere were also treated in a similar manner. The plaster was necessary to lighten the gloomy interiors and serve as a suitable background for colour work. At Nagarjunikonda, all the buildings were built of brick and plaster. Stone was used only for pillars, floors and sculptural work. Although there is plenty of granite and other good building stone available on the spot, the Buddhists never used it. They used only white or grey limestone specially transported by river from a distance and at great trouble and expense. There seem to have been two reasons for the choice of this material, firstly, when first quarried, it is comparatively soft and very easy to carve; and secondly, it is more absorbent than any other kind of building stone and takes plaster or whitewash well and its colour blends better with the latter than any other kind of stone. The Buddhists have always shown a preference for a white or light coloured stone for their images and sculptures, and when, as in the case of their rock-cut temples, such stone was not available they always used plaster to attain this end. The Hindus and the Jains on the other hand preferred a black or dark coloured stone for their images.

As Mr. Hamid had already excavated the interior of Stūpa 6 and found nothing, I was not very hopeful of finding any relics, but as he had done the same thing with regard to the Great Stūpa and missed the relics it contained, I deputed Mr. Gopal Pillay, my Excavation Assistant, to again excavate Stūpa 6. The *stūpa* is in the usual form of a wheel, the brick spokes dividing the interior into eight triangular chambers. All of these were carefully excavated down to the ground level and in the chamber facing the north the relics were found but in a crushed condition. The relics were placed in a small gold reliquary shaped like a bowl with a lid of the same pattern and measuring three-quarters of an inch in height and one inch in diameter. This was placed in a little silver casket in the form of a *stūpa* and probably about two inches in height, but the latter was found in such a hopelessly corroded and broken condition that no description of it is possible. As a rule, these silver caskets were placed in earthenware pots but no pot was found in this instance. It seems that the casket was placed on the floor of the northern chamber of the *stūpa* and then buried in earth and brick débris, the latter crushing the casket in the process. However, the gold reliquary, although also somewhat crushed, was found complete. The lid had fallen off but the contents remained intact. These consisted of a number of small round gold lotus flowers of the usual kind, a few broken jade, coral and pearl beads, a tiny piece of bone and two small coin-like medallions made of thin gold and measuring five-eighths of an inch in diameter (Plate XXXVII, *d*). One is embossed with the head of a Greek-like male figure and the other with the head of an Indian lady (Plate XXXVII, *e*). They are obviously meant for portraits of two important personages, probably

a king and a queen. Both are of the same size and in the same foreign style, and have holes drilled at the top showing that they were once worn as pendants on a necklace. They seem to have been struck to commemorate some special event. perhaps the building of the Great Stūpa by the lady Chāṁtisiri who was a sister of King Siri Chāṁtamūla. This great lady's name occurs frequently in the inscriptions discovered at Nagarjunikonda as the donor of many religious works and an ardent devotee of the Buddhist faith, so it seems probable that we have here a portrait of the princess in question and perhaps the male figure represents a portrait of the ruling king of the Āndhra country in the 3rd century A.D.

The classical features and style of workmanship exhibited in these tiny medallions suggest Western influence. The same may be observed in several of the sculptures, the two best examples being the Greek-like male figure holding a drinking-horn and the Scythian Warrior (*vide Kern Institute, Annual Bibliography of Indian Archæology for 1927, Plate VI*). The inscriptions inform us that Buddhist monks and others from Gandhāra and Kashmir frequently visited Nagarjunikonda. There was also at this period a brisk trade between Southern India and Rome and such towns as Masulipatam and Ghantasala in the Krishna delta are mentioned by Roman historians as important trade centres. In those days the Krishna was probably a bigger river than it is now and navigable from Nagarjunikonda to the sea all the year round. Even now during the rains this is possible for country craft. That the river was extensively used as a highway is certain and the great blocks of limestone used in the buildings could have been brought to the town by no other means as there are no roads leading out of the valley which is completely surrounded by lofty hills. Feeling that this must have been the case, I explored the whole of the river front at Nagarjunikonda, some two miles in extent, and after some trouble owing to thick jungle I discovered the quay or landing-stage. It was covered with jungle and even the local villagers did not know of its existence. It measures about 250 feet in length by 50 feet wide and the front wall is 6 feet in height. Three rows of broken pillars placed 10 feet apart and extending from end to end show that it was covered with a roof of some kind, probably thatch. It stands well above the ordinary water level, but in the rains the river rises to the level of this quay and it is rather surprising to find that it still remains so well preserved considering that it has not been repaired for centuries. There was not time to excavate this site last year but it is a work that should be undertaken as some of the buried pillars may be inscribed. The long building that stood on the quay seems to have served as a kind of Customs House or a row of shops. The pillars are plain and different to those employed in the monasteries indicating that it was not a religious building.

STŪPA 9.—This was discovered by Mr. Gopal Pillay on the western side of the valley in the direction of the river. It measures 42 feet in diameter and on plan and in construction is similar to Stūpa 6, and, like the latter. was faced with bas-relief slabs most of which were recovered together with four beams but most of the sculptures are unfortunately broken. No relics were

discovered in this *stūpa* except a few bones of—an ox, deer and hare. These were all found together along with a broken doll's head made of red pottery in a chamber on the north-eastern side of the *stūpa*. In the opposite chamber on the north-western side were two red earthenware water pots and two bowls of the same material all filled with hard red earth. Similar vessels were found in a monastery and appear to be ordinary domestic vessels used by the monks when taking their meals. They may have contained bone ash which has since been destroyed by white ants or perhaps food and water for the spirits of the dead animals whose bones were buried in the *stūpa*. These animals were regarded as sacred as we are told that the Buddha had assumed their forms in previous births and one of the broken slabs recovered from this *stūpa* gives an excellent rendering of the Sasa Jātaka in which the Bodhisattva takes the form of a hare (Plate XXXVII, *f*). On the right we see the hare talking to his friends the jackal, monkey and otter in a wood near a village on the Ganges, and on the left the monkey is shown offering a cluster of mangoes, the otter a fish and the jackal a pot of *ghee* to Sakka disguised as a Brahman beggar, while above this group the hare is portrayed jumping into the fire the Brahman has kindled so that the Brahman may have roast hare for dinner. It is a pretty story and one not often portrayed in Buddhist art. Hares, jackals, otters, gazelle, panther and peafowl are still common at Nagarjunikonda and were probably far more numerous in the third century A.D., when these sculptures were executed. In one of the monasteries a small earthenware pot was found containing the bones of several hares and field mice. At Nagarjunikonda, there is a pretty little brown field mouse not unlike the European Dormouse only a trifle larger. It is a very friendly little animal and it seems probable that the Buddhist monks who lived in the monasteries encouraged them as pets and when they died buried their bones in pots. They also appear to have kept domestic fowls and peafowl, as a few bones of these birds were found mixed with those of the hare. In some cases the state of the bones showed that the bodies of these animals and birds were cremated, but as a rule they were not. No complete skeletons were found and I do not think they were buried in that form. Only a few bones of each animal or bird seem to have been saved and they must have been kept in a pot for some considerable time for burial in a *stūpa*, a monastery or apsidal temple, as we found animal bones in all three of these different types of Buddhist buildings, but mostly in the *stūpas*.

Of the sculptures recovered from Stūpa 9, those decorating the four beams are most interesting but one beam only was found in a good state of preservation, the others being much worn and broken. The scenes portrayed in the panels adorning this particular beam (Plate XXXIX, *a-e*), seem to illustrate an important event in the history of Buddhism and not one of the Jātakas. The scenes read from right to left and in the first one, we have a picture of a king with two royal ladies seated beside him, while five female attendants, one of them holding the royal umbrella, stand in the background and an armed Yavanānī guards the palace doorway (Plate XXXIX, *a*). Similar female guards are represented in some of the Gandhāra sculptures portraying royal palaces. From

what happens in the next scene, we may conclude that the king and the ladies are discussing the comparative merits of Brahmanism and Buddhism with the result that the king decides to publicly denounce Brahmanism (Plate XXXIX, *b*). This is illustrated in the second panel where the king is shown crushing with his right heel a Siva *liṅga* encircled by an enraged seven-headed serpent. Two attendants, one holding the umbrella of State above the monarch's head, are depicted on the right, while the king's general dressed in Greek robes and holding a sword stands in the centre with the ministers on the left (Plate XXXIX, *c*). They are all represented with their right arms raised aloft apparently denoting that like the king they denounce the Brahman faith. The same incident occurs on a slab recovered from Stūpa 2 (Plate XL, *a*). Here, the incident is represented as taking place outside the city gateway and a group of angry Brahmans are depicted denouncing the king's action. The large panels are separated by small vertical ones usually decorated with a pair of royal lovers. These smaller panels as a rule are purely decorative and not connected with the stories illustrated in the larger ones. But in this case (Plate XXXIX, *e*), as three figures appear instead of two, they may be meant to represent the king (in undress) with his wife and daughter. In the next panel we see the Bodhisattva seated on the Diamond throne under the shade of the Bodhi tree at Gayā (Plate XXXIX, *e*). A tiny elephant is shown descending from the heaven to denote the Buddha's miraculous birth (Plate XXXIX, *e*), while below there is a little figure sitting on the coils of a many-headed serpent apparently meant for Muchalinda Nāga, the tutelary deity of a lake near Gayā, who protested the Bodhisattva from rain by expanding his great hood over him. On the right, the king accompanied by the same two royal ladies is seen approaching the Bodhisattva with a spear, while the ladies are shown protesting against his hostile attitude and succeed in persuading the king to listen to the Great Teacher who soon converts him to Buddhism as is shown by the king humbly sitting at the foot of the throne with his hands raised in adoration while his wife stands behind in a similar position. This same incident also occurs on a carved slab recovered from Stūpa 2 (Plate XL, *b*). Here, the king holding a spear and followed by an armed retainer is shown coming out of the city and making his way to Gayā where the Bodhisattva is portrayed under the Bodhi tree with a grotto in the background, while the two ladies are portrayed begging the king not to harm the Buddha. Then as in the other panel, the king and queen are shown as having become converts to Buddhism. These scenes show that this monarch who was apparently a Brahman before he publicly renounced that religion, did not take kindly to Buddhism at first, but later on, when he understood its doctrine, we find him, as shown in the last two panels, renouncing his kingdom in order to become a Buddhist layman. In the fourth scene (Plate XXXIX, *b*), he is depicted as a Chakravartti monarch surrounded by the seven Jewels (*Sapta ratnāni*), *viz.*, the best specimens of each kind that appear during the reign; the jewel of the wheel, of the elephant, of the war-horse, of woman, of the pearl, of the general, of the minister. All are shown in this bas-relief, the pearl as a pendant for a necklace is depicted next to the wheel. The posi-

tion of the monarch's right arm denotes that he is renouncing all these good things or perhaps dedicating them to the cause of Buddhism. In the last scene we see Muchalinda Nāga protecting the Bodhisattva from the rain. The wavy lines above Muchalinda's hood denote the lake near Gayā in which the serpent dwelt (Plate XXXIX, *d*). The piece of matting or *tattie* serves to divide the panel into two scenes and also indicates that the incident took place during the Monsoon. The four figures dressed in Buddhist robes appear to represent the king with his left hand holding the edge of the matting, his daughter beside him and his wife in the background, while his son stands next to the daughter. The two figures which I take to represent the king's son and daughter both hold thin sticks or branches in their left hands and as the scene takes place at Gayā, the sticks are probably meant to represnt cuttings from the Bodhi tree and that the king is shown sending forth his two children as missionaries to establish Buddhism in other lands. If my identification of these scenes is correct, it seems we have here a conventional rendering of the life of Aśoka who was regarded by his co-religionists as a mighty Chakkravartti and patron of Buddhism, to whose influence the whole Indian Peninsula was forced to submit.

Another beam is decorated with four scenes illustrating Queen Māyā's Dream (Plate XXXIX, *f*), Casting the Horoscope, the Nativity and the First Sermon, while a third beam portrays four excellent scenes from the Champeyya Jātaka, and the fourth depicts scenes from Sivi Jātaka and the Subjugation of the Mad Elephant. Of the upright bas-relief slabs, seven were recovered but only two are in a good state of preservation (Plate XL, *c* and *d*). Two carved Foot-print slabs and an inscribed pillar were found in a field near Stūpa 9. Estampages of the inscription were sent to Dr. J. Ph. Vogel and Dr. Hirananda Sastri, Epigraphist to the Government of India.

EXCAVATIONS AT HALIN.

By Mons. Charles Duroiselle.

Excavation work in Burma was continued at HMAWZA (Old Prome) and PAGAN, and extended to HALIN, during the year under report.

HALIN is situated twelve miles south of Shwebo in Upper Burma and is five miles east of Mokso-gyon Railway Station on the Mandalay-Myitkyina branch of the Burma Railways. It is connected with the Mokso-gyon Railway Station by a Public Works Department Road.

It was visited in 1904-05 by my predecessor, Mr. Taw Sein Ko, and for a short note of the place and of the excavations conducted by him there at that time, a reference may be made to the Report of the Superintendent, Archæological Survey, Burma, for the year ending 31st March 1905, pages 7-10.

Halin is one of the very oldest sites in Burma, but its early history and that of the neighbouring country is not known. A legendary account of Halin may be found in the Shwebo District Gazetteer published by the Burma Government

and in my notes on the Rock-cut Temples in Po-wun-daung.[1] The earliest record containing a reference to it is a stone inscription in Burmese dated 1082-83 A.D., which was found on the platform of the Shin-Pannaw pagoda, Halin, and has been preserved *in situ*. It records the dedication of lands in the Halin Circle to pagodas and monasteries built in honour of a monk by Saman Battrya, a governor of Halin and Minister of king *Sithu*.[2]

"Halin" is the modern pronunciation, evolved, through the regular phonetic laws obtaining in Burmese, from the written form "Hanlin". Its classical names, as given in one or two modern works and based to some extent on older oral traditions, are: Haṁsavatī, Pachchhimanagara, Haṁsanagara, Kāmavatī and Hallana (?). It constituted a governorship in the 11th-12th century A.D. In the course of time, it seems to have dwindled in importance; during the time of the last Burmese Kings, it was in charge of a headman.

At present it is a group of hamlets totalling in all about 500 houses, according to the latest census, and was built on the high grounds skirting low-lying marshy lands containing mineral springs. It has been for centuries and is still one of the centres of local salt industry, which, though hardly remunerative, is being kept up through sheer force of habit handed down from generation.

In the course of his excavations at Halin, Mr. Taw Sein Ko found an inscribed stone with Pyu writing in an old South-Indian character.[3] It is also stated that villagers, who cultivate the fields within the old city walls, have found from time to time, objects of antiquarian value, such as, gold, silver, and bronze figures, ornaments, etc., but that these had been sold or melted down for the sake of the metal.

During the year under report, another inscribed slab also written in Pyu was found at a spot a few hundred feet to the south-east of where the stone mentioned above was found by Mr. Taw Sein Ko. Both these slabs are sandstone but fairly hard in texture, and the inscriptions were incised on their natural surface as they came out of the quarry (Plate XLI, *a* & *e*). The writing on the smaller stone, found in 1904-05, appears on palæographical grounds, to be older in date by a few centuries, but that on the new stone seems to be more important from the historical point of view. The latter contains eight lines of writing (while the former contains only two not counting the interlinear one) and probably records a historical fact concerning a local chief and his wife, whose names may be found in lines 2-4.

According to a local legend, Halin was founded by a certain king named Karabho, a son of the fabulous Mahāsammata. After him there reigned 798 kings, the last of whom was succeeded by Pyu-bhandhava, who made Pyu-min his Uparājā. These events are placed long before the time of the Buddha, and

[1] *A. S. I.*, 1914-15, pp. 44 and 45.

[2] This brings us to the reign of king Sawlu (1077-1084) whose style is not found anywhere in inscriptions or other documents; "Sithu", which was a style commo- to many kings of Pagan, may also have been his. This inscription is one of the earliest in the Burmese language, according to its date.

[3] See also *Annual Report of the Superintendent, Archæological Survey, Burma*, for the year ending 31st March 1915, pp. 21-23.

may mean nothing beyond the fact that the first king who ruled over the country was one bearing an Indian name, that Halin was an old Pyu settlement, and that the date assigned to those events has been antedated by many centuries.

It is yet premature to discuss the contents of this new Pyu inscription for the reason that our actual knowledge of the language is extremely meagre; so much, however, seems certain that neither Karabho nor the names of the other Pyu kings just mentioned find a place in it.

A peculiar feature of the stone under discussion is a crescent-shaped ornament surmounting the inscription, which led certain Moslems of the neighbouring villages to think that it might have something to do with their faith. They were disappointed, when they found the language and writing of the inscription to be quite foreign to them.

The exact nature of the inscription is not yet known, not even whether it is Buddhist or Vishnuite. The crescent has been noticed on old symbolical coins found in the relic chamber of a ruined Buddhist *stūpa* at Old Prome and on two stone sculptures which formed the cover of the relic chamber. The Buddhist nature of the two sculptures is more apparent, for on each was represented, besides the crescent, an old form of *stūpa* flanked by Mahābrahmā and Śakra with five Buddhas at the base of each. On the other hand, it may be remarked that at spots where Pyus are known to have settled, old sites are still pointed out, the origins of which are clearly traceable to Vishnuite influences.

In his note on the excavation at Halin, Mr. Taw Sein Ko made mention of two silver coins in particular, which he procured at Halin with the help of the village-headman. He says "The coins are of equal size, and are about seven-eighths of an inch in diameter, and in thickness about one-third of that of a two-anna piece. Their obverse face appears to represent the *dharmachakra* and the reverse the Buddhist *triśūla*. These coins were probably brought over to Halingyi[1] by Indian Buddhist immigrants from Gangetic India."

During my stay at Halin in November last, I succeeded in procuring, with the help of the same village-headman, another silver coin, and Mr. H. F. Searle, I.C.S., presented this office with two small coins of the same type when he was stationed at Shwebo as Settlement Officer in 1915. One other coin was found in May 1922 in the possession of a Buddhist monk at Thazi, and U Nyun, Head Master, Government High School, Katha, sent me a rubbing of yet another coin in his possession. In connection with the last coin, U Nyun wrote to me as follows:—"I got the coin from the village called Halingyi. It was worn as an ornament by a girl from whom I bought it. They said it was found along with others of the same kind, in an earthen pot buried in the ground." In the collection of this office, there are specimens of almost the same type in three different sizes. They are all silver coins. They are about $1\frac{1}{4}''$ (about the size of a rupee), $\frac{7}{8}''$, and $\frac{5}{8}''$ in diameter, but the symbols on them are more or less the same. A specimen of the largest size of this type is classified as follows in the *Catalogue of the Coins in the Indian Museum, Calcutta*, Vol. I, page 333, No. 6, "*Burma*; *so-called 'symbolical coin' silver—Obverse*: 'Rising sun in dotted

[1] That is, Halin.

border '. *Reverse*—' Various symbols ' ". Among the ' various symbols ' may be noticed the representations of the Sun, a star, crescent-shaped objects, a *svastika*, a throne or an altar surmounted with dots, streamers or serpent-shaped objects, dots and carved lines. Some of these symbols may be noticed also on the coins of Arakan and of Prome.[1]

Now there can be no doubt that, as I have noticed elsewhere, a certain family likeness exists between the coins of Arakan, Prome and Halingyi. This likeness becomes the more apparent when we consider that the countries wherein they are found are contiguous to one another; they are, however, sufficiently different to show the growth of separate principalities. One distinctive feature which may be pointed out here is that the coins of Arakan (some among the symbolical ones) have a recumbent bull on one face with a legend above in Gupta characters. This symbol and legend are absent from those of Halin and Old Prome.

One other interesting find made at Halin is a portion of a stone sculpture in two fragments measuring 4′ in height, 4½′ in breadth and about 6″ in thickness. It was divided into two panels, but the upper panel, which contained a seated figure, probably a Bodhisattva, is missing, and there remain only a portion of the right hand and the right leg. The arm is resting nonchalantly on the thigh just above the knee, the hand hanging in an easy and restful manner below the knee. From the position of the leg and the two feet, the figure seems to have been sitting in somewhat the same posture as those in the lowermost row, especially the fifth counting from the right, both feet of which are in practically the same position as those of the principal figure (Plate XLI, *b*.). Below, in a panel divided from the above by a fillet about 8″ in breadth, are figures in rows of which three are visible in their entirety. Of the others, the head only or the bust can be seen. These figures are all seated with their hands raised to the breast in the *namaskāra-mudrā*. The legs are bent and the feet cross one another. A remarkable feature is that most of the figures on the right half are wearing crown-like head-dresses, while in the other half a plain head-dress with the hair done into a knot on the crown of the head and a turban wrapped round it predominates. The latter is a feature which may still be noticed among the old-fashioned Burmese. Large ear-lobes, from which hang heavy ornaments, and beaded necklaces, are seen in all. The dresses are not delineated except in one instance: the edge of the *loongyi* or *dhoti* across the calf of the first lowermost figure on the right, so that all those personages appear to be nude; but they of course, wore at least the *dhoti*. Now, the question is, whom and what does this scene exactly picture? This could no doubt be solved if the long inscription on the fillet separating the two panels had not been rubbed off by peasants sharpening their knives on it; unfortunately all that now remains of that document are a few letters at the beginning. But these letters are in the Pyu script, which discloses the important fact that the sculpture is a Pyu one, and that the lower panel has probably preserved to us the general cast of features of a people now long extinct.

[1] *Catalogue of the Coins in the Indian Museum, Calcutta*, Vol. I, Plate XXXI; Phayre's *Coins of Arakan, of Pegu and of Burma*, Plate II; *A. S. I.*, 1926-27, Plate XLII, *e-f*.

If this is correct, which I doubt not, then this fragmentary sculpture must be reckoned as one of the most important finds that have yet been made in Burma, and as one preserving to us a faithful record, in one respect, of that time, which may be placed between the 8th and 10th centuries A.D.

The sculpture was originally discovered by a Buddhist monk of Tagantha village, situated a few miles from Halin. Another Buddhist monk of the Mya-thein-dan Monastery, Yebu-gôn quarter, Halin, finding it, on one occasion, to be in danger of being completely destroyed, had it removed into his monastery compound. For greater safety, I had it removed from its last position, and preserved in a pagoda compound of the same monastery.

A few trial pits were sunk and a trench was dug near the sites where the stones with the Pyu inscription referred to above were discovered, but the results were not satisfactory. The foundations of a brick wall, a few feet deep, were uncovered and large fragments of stone were brought to light. The latter look like boulders, and formed part of an ancient building, the plan of which is now hard to trace. Further excavation is necessary.

EXCAVATIONS AT HMAWZA, OLD PROME.

By Mons. Charles Duroiselle.

Excavations were conducted at Hmawza (Old Prome) at twenty-four separate sites, most of which consisted of brick mounds, situated in different parts of the Old City, both within and without the walls.

Within the area known as East Pyu-daik or 'cluster of Pyu-mounds', I dug at five different sites situated within a double enclosure marked off by brick walls, remains of which are still clearly traceable. The walls of the outer enclosure measure 1,448′ north to south and 978′ east to west, while those of the inner enclosure measure 532′ and 348′ respectively.

Four of these mounds were situated within the inner enclosure, two being near the centre and the other two near the north-east corner. Two of these sites were marked with large fragments of sandstone. One of these stones had been worked and smoothed in the form of a pillar with mouldings. At another site in a low depression, there was a large stone slab broken in two pieces, both measuring together 10′ 4″ in length, 4′ 6″ in breadth and 1′ 10″ in thickness. This slab originally contained an ancient inscription, which is now quite illegible.

A feature which had not been noticed at Hmawza in previous years is that inscribed stone slabs were found erected by the side of ruins as in the case of many temples at Pagan. Tablets of this kind that require special mention are those found at two sites situated close to one another to the south of the city outside the walls at a place known as Pyo-gin-gyi. Both the slabs were unfortunately very much damaged, though a few letters are visible here and there on one of them. It was found erected close to a small octagonal building and probably recorded its foundation.

A mound related to have once borne a recumbent image of the Buddha, was next examined. It is situated close to a temporary branch railway line near the

Mahtaw village, and measured 93′ north to south by 65′ east to west with a height of about 8½′ above the surrounding level. Digging was started at the top at the southern end and revealed three terraces, the lower two being about 8′ wide. The topmost terrace which was about 20′ in breadth and was found packed with earthenware vessels containing earth and charred bones, was, no doubt, a burial place. A number of long iron spikes and short stone pillars brought to light on this terrace were presumably intended to mark the boundaries within which funeral urns could be deposited.

Portable antiquities recovered from this mound included terracotta votive tablets, each bearing an effigy of a seated Buddha with a Pyu legend below which were turned up at a depth of 8′ from the top of the mound. There was also brought to light, at a depth of about 7′, a six-sided iron plate, pierced with 43 nails and with a large iron pin or nail with a knob lying on one side. The plate is almost an exact replica of that found at a burial mound in 1924.[1] The exact purpose of these plates is not yet known. They were presumably connected with the burial customs of the Pyu.

Several mounds which eventually proved to be remains of old *stūpas* were also dug into, but revealed nothing of interest, except terracotta votive tablets of the type usually found at Hmawza.

Special mention should be made here of a rare terracotta votive tablet which was picked up by a cartman in a field close to the south of Taung-lon-nyo village. It depicts a crowned Buddha in the *dharmachakra-mudrā* seated cross-legged on a lotus under a tri-foliated arch in a temple and flanked by probably two other crowned figures[2] both in the *dharamachakra-mudrā* but seated sideways with one leg pendant and resting in a lotus. Below the pedestal underneath there are two couchant deer with a lively scene depicted between them, which cannot be identified with certainty. The principal interest of the tablet lies in the miniature temple above the holy triad. This temple consists of a sanctum comprising three receding terraces separated from each other by walls inclining inwards and preceded by an ornamental vestibule.. This temple representation recalls the type of the monuments of Pagan (XIth century A.D.), which it antedates by about a century and confirms Burmese literary accounts of the existence of earlier temples at Pagan and elsewhere in Burma.

EXCAVATIONS AT PAGAN.

By Mons. Charles Duroiselle.

While clearing the. *débris* round the base of the *PAYATHONZU TEMPLE, MINNANTHU*, a cooly found a silver plate, on both sides of which were written in ink extracts from Pāli texts in Burmese characters. The plate measures a little over 10 inches in length and 2¼ inches in breadth, and contains six lines of writing on each face (Plate XLI, *c*). The letters are square in character and resemble very closely the writings in ink on the walls of the Thambhula temple, situated

[1] *Report of the Superintendent, Archæological Survey, Burma*, for the year ending 31st March 1924, para. 32, pp. 26-29.

[2] The head of the figure on the right is missing.

close to the Payathonzu temple, which was built in the 13th century A.D. It may be noted here that there are frescoes on the walls of the Payathonzu and Thambhula temples, but no ink inscriptions are to be found on the walls of the former.

The writing on the silver plate contains the *gāthā* of the chain of causation and extracts from the *Paritta* hymns. The latter were taken from the *Sutta*, but there are passages in them, of which the sources cannot be traced. Such passages are common to the *Paritta* hymns of Ceylon, Burma, Laos, Siam and Cambodia, but the original text or texts from which they were taken are not known.[1] The author of the commentary on the Burmese texts of the *Paritta* hymns remarks vaguely that such passages were composed by the great scholars of olden days,[2] probably referring to the Singhalese sources.

In the report for the year 1926-27, reference was made to the discovery at Taywin-daung, Pagan, of a bronze lotus enshrining an image of the Buddha and the principal scenes from his life. Such bronze lotus shrines seem once to have been rather popular; for isolated objects forming parts of such shrines were dug up occasionally in the course of excavations at Pagan. One of these which was also found during the year 1926-27 in a mound, near the Mingalazedi pagoda, was a small bronze image of a Nāginī. Another object of this character was found during the year under report in the *débris* inside a ruined temple near the SHWE-SAN-DAW-PAGODA at Pagan. This is a small standing bronze image of the Buddha about $1\frac{5}{8}''$ in height, standing on a lotus, which certainly formed part of a lotus shrine. The same *débris* yielded a small bronze image of a Bodhisattva (ht. $1\frac{3}{8}''$) seated on a lotus with one leg pendant. This appears to have formed part of the retinue of an image of the Buddha or a *dhyānī Buddha*. Both these figures are of Indian workmanship and their date is supplied by a fragment of a terracotta votive tablet, bearing an effigy of the Buddha on the obverse face, and a Talaing inscription of about the 11th-12th century A.D., on the reverse.

Another mound excavated at a site about 150 feet to the north-west of the Tawyagyaung monastery near Myin-pagan disclosed the remains of two buildings, one being a temple of the usual type and the other a rectangular brick shed. The latter type of building generally enshrines a recumbent image of the Buddha, but no traces of such an image were found in the present structure. Internally, it measured about $21\frac{1}{2}' \times 13'$, and had two doorways, both on the same side of the building. There can be no doubt about the Buddhist nature of these two monuments as several objects of a Buddhist character were found in them.

Altogether FIFTEEN MOUNDS were selected and dug during the year and revealed the remains of Buddhist religious buildings and, besides other objects, large numbers of terracotta votive tablets. Some of the latter are inscribed on both faces, others only on one face, with Pāli, Sanskrit, Burmese and Talaing epigraphs, recording principally the names of donors. In age, they are about

[1] See also *B. E. F. E. O.*, Vol. XVII, 5, pp. 53-60.
[2] *Mahā-Parittawgyi-ṭīkā*, p. 103.

650 to 800 years old, showing that nothing so far found at Pagan dates from before the 11th century A. D.

Other minor antiquities included the following—

(1) A stone image of Gaṇeśa, 8½″ in height. Broken into two fragments, and found with other objects among the remains of a Buddhist temple. Four hands: right hanging down and holding a rosary, left bent and pressed against the abdomen. Other two hands are folded up, the right holding a hook and the left a club. Mongoose carved on the front of the pedestal.

(2) an image of a crowned Buddha (hands missing) standing on a lotus (Plate XLI, *f*),

(3) terracotta votive tablets, and

(4) a small pot-bellied and shaven headed figure seated on a lotus.

As I have already noticed in a previous report, Gaṇeśa and this " pot-bellied " figure[1] were once very popular among the Buddhists in Burma, and how these two figures were combined and made use of for worldly purposes in witchcraft will be found discussed in paragraph 52, page 23, of the *Annual Report of the Superintendent, Archæological Survey, Burma*, for the year ending 31st March 1913. Here the figure placed back to back with Gaṇeśa (Plate XLI, *d*) is generally known as " Gavām ", shortened form of " Gavāmpati ", the well-known Buddhist *patron saint* of the Talaings.

BASSEIN.

By Mons. Charles Duroiselle.

In August 1929 a stone slab, measuring 5 feet in length, 4 feet in width and 2½ feet in thickness, was brought to light by digging operations in a private garden at KANTHON-ZIN near Bassein. It shows in the centre an image of the Buddha reclining on a couch surrounded by a raised border with a groove about 2½″ in depth and 5″ in breadth running round the latter. The entire space between the couch and the border is occupied by an inscription, which is continued on the border and a part of the groove outside it. The inscription is in Pāli with explanations in Talaing (Môn) and begins with the first line in the space above the couch within the border. It ends with the line outside the border, on the same side. It gives a very short account of the life of the Buddha in some of his successive births from the time he first made his resolution to become a Buddha to the time he pronounced his last words just before he attained Nirvāṇa. This account begins with four short verses in Pāli, each verse, the first of a stanza, giving the clue to a birth story of the Bodhisattva within a period long before his meeting with the Dīpaṅkara Buddha, and which consequently was not recognized by the canonical texts. These four stories are given by Spence Hardy in his *Manual of Buddhism* (Second Edition), pages 91-95, which, as pointed out by Mr. S. Paranavitana, Government Epigraphist, Ceylon, are abbreviated versions of a Sinhalese religious treatise entitled the

[1] Such figures are known as *Mahā Kachai* or *Prah Kachai* in Southern Shan States and Laos (*Report of the Superintendent Archæological Survey, Burma*, for the year ending 31st March 1922, pp. 33-34, para. 42 (*a*) and footnote).

Saddharmālaṅkāra, written by a monk named Dhammakitti, who lived in the first half of the fourteenth century.

The *Saddharmālaṅkāra* is said to be mainly a translation of the Pāli work entitled *Rasavāhinī*, but its first three chapters contain matter not found in the latter. The stories referred to above are found in the second of these three chapters. It is interesting to note that these stories are found also in a Pāli manuscript entitled the *Sotattakī*, a rare work, belonging to the Library of the Superintendent, Archæological Survey, Burma, and as it may prove to be of interest, the four verses, as found in the inscription under discussion, are quoted below :—

1. *Gandhāravisaye māturu (d) dhāranāviko yuvā.*
2. *Sattutthā pana narādhipo gajampiyo.*
3. *Byagghinīyā sakam adāsi brahma-isi.*
4. *Rājāputtī siri siddhatthatelam adāta.*[1]

In the story to which the first verse refers, the Bodhisattva was a young boatman and a resident of Gandhāra. He, with his aged mother, who was a widow, went in the company of a sea merchant for purposes of trade and in search of wealth. Their boat was wrecked while crossing over to Suvarṇabhūmi, but by the exertion of the Bodhisattva, he and his aged mother were saved from perishing in the sea.

In the next birth, the Bodhisattva was a king famous for subduing wild elephants. One day, while he was out on the track of wild elephants, the tame one on which he was riding, scenting females, became unmanageable, and it went after them. The king himself was carried away, and he could just manage to escape with his life. Finding that passion was stronger than all else, he resolved to become an ascetic. This story is referred to in the second verse.

The story alluded to in the third verse is that of the Bodhisattva giving his body to a tigress to appease her hunger and thus stop her from eating her whelps ; it is a well-known Mahāyānist story. Besides the sources mentioned in Speyer's translation of the *Jātakamālā*, page 8, the same story, differing in some points from that given by Speyer, may be found also in E. Chavanne's *Cinq cents Contes et Apologues* (*being extracts from the Chinese Tripiṭaka*), Vol. I, pages 15 and 16.

The story told in the fourth verse is an illustration of the Buddhist idea of the ineligibility of a female to aspire to Buddhahood. Briefly put, the story begins with the Bodhisattva born as a princess as a result of one of his misdeeds in a previous existence. The other principal personages in the story were a Buddha who was a brother of the princess, and an ascetic who was to become the Dīpaṅkara Buddha in ages to come. The princess, offering a cup-full of *siddhattha* (white mustard) oil to the latter prayed that she might become a Buddha like her brother in a future world and that that Buddha's name might be Siddhattha. This was repeated to the Buddha by the ascetic, but the former declared that in her present birth (as a female) no announcement could be made.

According to the story given in the *Sotattakī* she had to live over many lives during the aeons at the end of which she was reborn as the hermit Sumedha and

[1] *Sotattakī : Adāsi.*

became the Buddha Gotama. A story very similar to it may be found in *Zimmê Pannāsa*,[1] where it is entitled "Padīpadāna Jātaka". Chavanne's *Cinq cents Contes et Apologues*, Vol. I, pages 263-265, tells it somewhat differently. According to it, the Bodhisattva was a young widow leading a chaste life and making a living by selling oil. To an old *śramaṇa* she made a daily offering of oil to be burnt before the Buddha; the latter made an announcement one day to the effect that he (the *śramaṇa*) would become a Buddha. The young widow, on hearing this, hastened to the Buddha and begged of him to make a prediction for her in the same sense, for her daily participation in the meritorious work. Buddha replied that a woman would not attain to the wisdom of a Buddha or of Pacceka Buddha, not even to the dignity of a Brahman, Śakra, Māra or Chakravartin. If she desired to become a Buddha, she should first abandon her impure state of being as a female and obtain one that is pure (as a male). That is to say, the Buddha could make a prediction for future Buddhahood only to a man and not to a woman. The young widow thereupon resolved to get rid of her foul body and returning home she prepared herself for it. Then going up to a tower, she threw herself down, but through the miraculous power of the Buddha she was unhurt and found herself metamorphosed into a male. She then in her changed condition received the desired prediction from the Buddha.

The *Sotattakī* is said to have been originally composed by Chūla Buddhaghosa,[2] a contemporary of Buddhaghosa, the great divine. The text is very corrupt and spoiled with many omissions, and as I was unable to procure a good copy of this very rare work, I have abstained from giving any quotations of it here.

This inscription contains no date; it may, however, from the characteristics of the script, be safely put down as belonging to the XVth-XVIth century A.D.

BHAMO.

By Mons. Charles Duroiselle.

Mr. H. A. Thornton, C.I.E., C.S.I., I.C.S., Commissioner, Sagaing Division, brought to my notice the discovery of a Chinese inscription on the SHWE-HINTHA HILL near Myo-thit, Bhamo District, and sent me an estampage of it with a tentative decipherment by a Chinese Clerk.

It was discovered by a Buddhist monk of Myo-thit in a field about a furlong to the south-east of the Shwe-hintha pagoda. The stone on which it is inscribed was found broken in three pieces scattered about at approximately 8 feet apart. When pieced together, the stone measures 6′ 6″ in length, 3′ 7″ in breadth and 10½″ in thickness.

The inscription records that the stone was set up on the 11th day of the 2nd moon in the 12th year of the reign of the Chinese Emperor Wan-li (1573-1619 A.D.) of the Ming Dynasty, and that it marks the spot where Liu T'ing, a Chinese

[1] Hanthawaddy Press, Rangoon, 1911, pp. 463-70.

[2] *Piṭakat* Son Pon Cādan, p. 65, No. 346.

General commanding an army on the western frontier, received in the name of the Emperor the submission of Shan Chiefs.

It is a well-known fact that our knowledge of the history of the Shan States on the Burmese frontier is very defective owing to the lamentable want of authenticated documents. The accounts as given in the Burmese histories are very meagre and often distorted. Parker in his *Burma, with special reference to her relations with China,* which is drawn chiefly from Chinese sources, touched upon many points with regard to those Shan States, but even a casual reader will notice that this work is, in many places, not as reliable as it might have been.

In these circumstances, this inscription is a very valuable acquisition, the more so as it is a contemporary record of an event that took place on a part of the Burmese frontier about the year 1584-85.

Myo-thit, where the stone was found, is a small village on a hill overlooking the Taping river, at a distance of 19 miles from Bhamo. It was my intention to have the stone brought over to Bhamo where it would be safer and more easily accessible to visitors, but owing to its fragile nature, it was decided to have it preserved in a monastery compound close to the site where it was discovered.

TRIAL EXCAVATIONS AT SIRAR.

By Rai Bahadur Daya Ram Sahni.

The subjoined notes on the trial excavations on the *Sirar Hill,* in the Khairpur State in Sind, were taken at my inspection of the place on the 12th April, 1930, under the instructions of the Director General of Archæology in India.

At the time of the Muhammadan invasion of Sind in A.D. 712 this territory was adorned with countless Brahmanical and Buddhist religious buildings. Many of these were destroyed by Muhammad Qasim. The remains of a few of them, *viz.,* those at Tando Muhammad Khan, Jarak, Mirpurkhas, Depar Gangro, Brāhmanābād and Thul Mir Rukhan, mostly Buddhist, have been explored by the Archæological Department and are described in detail in Mr. Cousens' *Antiquities of Sind.* The credit of the discovery of the site described in this note is due to Khan Sahib Gul Hasan Khan; Private Secretary to His Highness the Mīr of Khairpur, who also directed the trial excavations carried out on this site. Sirar is the local name of a flat-topped hill which forms part of a continuous line of sand hills stretching southwards for a distance of some 40 miles from Rohri on the Lahore-Karachi Branch of the North-Western Railway. The hill which is not more than 500 feet in height is situated some four miles to the east of Kot Diji and some 18 miles to the south-west of the city of Khairpur. The Fort of Diji formerly called Ahmadabad, has a curious crescent-shaped plan and contains several guns bearing Persian inscriptions of the time of Mīr Suhrāb, the nephew of Mīr Fath Alī Khān, Tālpur, who founded the present State of Khairpur at the end of the 18th century A.D. The villagers believe the name Sirar to be a corruption of Shiraz, one of the principal cities of Persia, which Muhammad Qasim had made the rendezvous for the various bodies of troops that were to accompany him upon his invasion of Sind. Others consider the hill to be

named after an ancient Hindu chief. The Sirar Hill and those adjoining it are scattered over with chert blocks, similar to those from which chert scrapers of the kind found at Mohenjodaro would have been cut, pieces of crystal, lumps of iron ore and large quantities of yellow ochre which, I was told, is used for plastering walls and was exported in large quantities to Multan. There were, however, no chert implements of the Indus Valley culture to be seen anywhere.

The summit of the Sirar hill is gained by a narrow track which winds up to a pleasant defile from where a path climbs along the south side of the hill. The other three sides of the hill are precipitous and from a distance assume the appearance of strong artificial fortifications. The flat top of the hill measures some 350 feet from east to west by some 300 feet from north to south, excluding two narrow projections stretching out to the north and west. The whole of this area is found to be occupied by an extensive Buddhist monastic establishment, which, to judge from a well preserved white marble standing image of Buddha, some carved or moulded bricks and other objects found in the excavations must be assigned to the Gupta period. Most of the structural remains on this site have been more or less completely explored by the State and comprise some four courts surrounded by groups of cells along the south edge, another line of cells on the east and other remains of monasteries in the middle of the site and on the north projection of the hill. There are also the remains of three *stupa* basements, one at the west end and one at each of the south-east and north-east corners of the area. All these structures appear to have been destroyed by fire. The remains of the monasteries are all composed of sun-dried bricks and the structures along the south side must have had upper storeys as definite traces of staircases have survived in one or two of the courts. The white marble statuette of Buddha mentioned above was found in one of the cells on the east side. and the photograph published with this article has been supplied by the State authorities. Near the spot referred to, I myself picked up a stone slab sketched with a figure of a running horse and another figure of a duck. By the side of this slab was lying another on which two or three Gupta characters of a cursive type are engraved but these cannot be deciphered with certainty.

Of the three *stupas* referred to, one occurs at the west end of the site in front of the monastic cells referred to. It consists of a core of stone rubble, faced on all sides with well burnt bricks measuring $14\frac{1}{4}'' \times 10\frac{1}{4}'' \times 2\frac{5}{8}''$. The sides are dilapidated but the structure measures 24 feet from corner to corner. At my visit I had a little digging made into the centre of the structure but found nothing in it. The *stupa* plinth at the south-east corner is 13 feet square and, like the one noticed above, composed of rubble finished on the outside with two layers, one within the other, of burnt and sun-dried bricks of the same size. Externally the plinth is plastered with white lime. The bricks adorned with patterns resembling lotus petals, dentils, etc., noticed above were lying about this structure and must have been used in its construction. The third *stupa* plinth is about 25 feet along each side, adorned with a bold torus moulding and covered with a thick coat of lime plaster laid over a thicker coat of black mud. The height of the plinth so far exposed is five feet but several [illegible] at the base

remain to be unearthed. The interior of the *stupa* also requires further excavation.

The portable antiquities yielded by the excavations included, besides those noticed above, door fastenings of iron, and a number of pottery articles including a somewhat interesting earthenware trough which is quite complete and adorned with a lotus pattern on the inside and a series of smaller but similar patterns stamped below the rim on the outside.

The remains are situated in an Indian State and cannot be brought under the protection of the Ancient Monuments Preservation Act. The question of further exploration of these remains is under correspondence with the State authorities and proper plans of the buildings will be prepared when they have been completely excavated.

SECTION III.—EPIGRAPHY.

SANSKRIT EPIGRAPHY.

By Dr. Hirananda Sastri.

DECIPHERMENT OF INSCRIPTIONS.

Nāgārjunikoṇḍa Inscriptions.

Of the important inscriptions discovered during the year under review special mention may be made of those excavated by Mr. Longhurst at Nāgārjunikoṇḍa in the Palnāḍ tāluk of the Guṇṭur District in the Madras Presidency. Like the records discovered at this site during the two preceding years, those now brought to light are also written in the early Brāhmī alphabet of about the third century after Christ and belong to the Ikhāku dynasty of Southern India. One of them which is engraved on an *āyaka* pillar lying to the south of *Stūpa* No. 5, was copied in 1927 and, though noticed in the *Annual Report on South Indian Epigraphy*, was left out from the epigraphical resumé pertaining to that year. This epigraph is an important record as it indubitably establishes the relationship of Bhaṭidēvā with Siri-Virapurisadata and Siri Chāṁtamūla by calling her the wife (*bhayā*=Sanskrit *bhāryā*) of the former and daughter-in-law (*sunhā*=Sanskrit *snushā*) of the latter. It belongs to the second regnal year of the Ikhāku king Ehuvuḷa who was the son of Siri-Virapurisadata. Including this inscription, Mr. Longhurst has discovered twenty-one records from the remains of the monastery No. 1, one from *Stūpa* No. 5 and several fragmentary inscriptions together with a complete record from the remains of *Stūpa* No. 9. One of the inscriptions recovered from monastery No. 1 records a gift which the *Mahātalavarī* Chāṁtisiri made for the welfare of her son-in-law, Siri-Virapurisadata and, like some of the previously discovered records, describes the donatrix as the wife of *Mahāsēnāpati Mahātalavara* Vāsiṭhiputa Kaṁdasiri of the Pūkiya (*family*) and as the uterine sister of *Mahārāja* Siri-Chāṁtamūla. The long inscription engraved on the floor of the apsidal temple, which once stood close to the east side of the Mahāchētiya, also records a gift which was similarly made for the welfare of the said prince whom it likewise calls the *jāmātā* (son-in-law) of the aforenamed donatrix. According to the two pillar inscriptions (C-2 and C-4) which were found during 1927-28, king Siri-Chāṁtamūla had another uterine sister, namely. Haṁmasiri (or Haṁmasiriṇikā) whose two daughters called Bapisiriṇikā and Chhaṭhisiri were also married to Siri-Virapurisadata. This practice of marrying such cousins though obnoxious to the Brāhmanical Hindus of Northern India is still current in the Madras Presidency. The evidence of Subhadrā espousing Arjuna, the hero of the Mahābhārata war or of Rukmiṇī's son Pradyumna marrying her brother's daughter would show that it was in vogue in ancient India also. Marriage of uterine brother and sister

in early ages seems to be hinted in the *Yama-sūkta* of the *Ṛigvēda*. That Darius of Persia married his own sister would show that incestuous marriage was not looked down upon about 500 years before Christ among the Perso-Āryans.

The word *Mahātalavara*[1] (or °*rī*) which occurs in these and some other inscriptions requires special notice. *Mahā* is only a prefix meaning great. The derivation of the term *talavara* is to be ascertained. In the early *Jaina* literature I find that this term occurs without the prefix *mahā* and along with the titles *Daṇḍanāyaka*, *Mantrin*, *Mahāmantrin*, etc. This we see in the following quotation from the *Kalpasūtra*[2] of Bhadrabāhu :—

* * * * * * * *

chhatteṇam dharijjamāṇeṇaṁ seya-vara-chāmarāhiṁ uddhuva-māṇīhiṁ maṁgala-jaya-sadda-kayāloe aṇega-gaṇanāyaga-daṁḍanāyagarā'-īsara-talavara-māḍaṁbiya-*koḍuṁbiya-maṁti-mahāmaṁti-gaṇaga-dovāriya-amachcha-cheḍa-pīḍhamadda-nagara-*nigama-siṭṭhi-senāvaï-satthavāha-dūya-saṁdhipāla-saddhiṁ saṁparivuḍe.

* * * * * * * *

The *Subōdhikā*,[3] which is a commentary on this ancient work written by Vinayavijaya-*upādhyāya*, thus explains this technical term :—
(talavaratti) talavarāḥ tushṭa-bhūpāla-pradatta-paṭṭa-baṁdha-vibhūshitā Rāja-sthānīyāḥ.

This authority would, therefore, show that *Talavara* was a sort of Governor of a province.

The other inscriptions, whether fragmentary or complete, which Mr. Longhurst has unearthed at Nāgārjunikoṇḍa this year, have their own value and will be published in the *Epigraphia Indica* in due course. A passing mention may, however, be made of one inscription which is incised on the base of a stele or pillar found buried in the remains of *Stūpa* No. 9. It has thirteen lines of writing and in language and script it resembles the other records found at Nāgār-junikoṇḍa. Excepting the first five or six lines, which speak of the Ikhāku king Siri-Virapurisadata, his father Siri-Chāṁtamūla and his aunt H[a]ṁmasiri, who is here described as the uterine sister (*sōdarā bhaginī*) of Siri-Chāṁtamūla, the whole record is a list of names of donors, mostly ladies. The carving on the pillar is worthy of notice. It does not appear to portray any legend but seems to depict a scene from life. Possibly the figures represented in the relief are some of the principal members of the Ikhāku dynasty who were instrumental in the setting up of this stele. The pillar is divided into six panels.[4] The lowermost panel contains the epigraph under notice and the topmost section contains the representation of a *Stūpa* enshrining the *dhātu* of the Buddha. The penultimate panel from the bottom seems to contain the figures of the royal donors. The male figure under the umbrella might stand for the reigning king

[1] *Vide Vienna Oriental Journal*, Vol. XXI, where in his article on the Chirwa inscription of Samarasiṁha, Mr. Geiger has discussed the meaning of the word *talāra*, which he considers to be derived from *talavara*. *Ed.*
[2] Jacobi, Leipzig, 1879, para. 61.
[3] Bombay Nirnaya-Sagara Press Edition (1923), p. 60 (first side), ll. 6 7.
[4] See *Ep. Ind.*, Vol. XXI, photograph facing p. 63.

and the child on the opposite side—to the extreme left—the prince, his son. The female figures between them are the royal ladies who were the chief donors. The heap in front possibly represents the coins or gift money. The hands of all these persons are in the act of touching the money at the time when the gift was made. To touch a gift with the hand is quite customary with the Buddhists who, in accordance with the formula '*sarva-sattvānām=anuttara-sukh-āvāptayē*' will gladly ask everybody present, whether connected with the gift or not, to touch it and share the merit. The lady standing to the right of the male figure under the umbrella holds a *kamaṇḍalu* which is, apparently, meant for pouring the water of libation. The panel above represents the party of the royal donors coming on the back of a state-elephant to the sacred spot where the stele was to be put up. The second panel from the top represents the king and his two principal queens sitting on the coach and thinking of the benefaction. If the surmise is correct the king is Siri-Virapurisadata himself flanked by his two queens Bapisiriṇikā and Chhaṭhisiri. These two ladies were, as we learn from the pillar inscriptions C-2 and C-4, the daughters of Haṁmasiri or Haṁmasiri-ṇikā and therefore, the cousin sisters of Siri-Virapurisadata whom they had both married according to the *āchāra* of the time. The lady standing to the right of the seated male figure in the next panel (3rd from top) might be a queen who was possibly a staunch follower of the Brahmanical faith and did not want to accompany the party. So, another lady, apparently of the Buddhist faith seems to be pressing her to follow. In that case the child may very well be the prince Ehuva(u)ḷa. Of course this identification is to be treated as conjectural till it is supported by further discoveries.

Charkhāri State Inscriptions.

Leaving out the records which were deciphered for outsiders and for some of our circle officers, the contents of the four copper-plates which the Director General of Archæology in India had received from the Mahārāja of Charkhāri and sent to me for disposal may briefly be summarised here. They give us four new inscriptions of the Chandēlla rulers of Kālañjara, the well-known historic stronghold of Bundelkhaṇḍ. The earliest of these four charters belongs to the reign of Dēvavarmadēva and is dated Monday, the 15th day of the bright half of Mārgaśira in the year 1108 of the Vikrama era. Reference to Swamikannu Pillai's *Indian Ephemeris* would show that the Mārgaśira-Pūrṇṇimā fell on Wednesday during the Vikrama year 1108. So the date as given here is irregular. The charter was issued from Kālañjara and registers the grant of the village of Bhūtapallikā in Navarāshṭramaṇḍala-*vishaya* situated on the banks of the river Yamunā to a Brāhmaṇa named *Śrī*-Kikkana. The second document in the lot is dated in *Saṁvat* 1236 and was issued from Vilāsapura by king Paramardidēva. It purports to register the grant of a village named Sa[gau]ḍō in the district (*vishaya*) of Kirāyiḍa (?) which the king made to several Brāhmaṇas of the Mutāutha-bhaṭṭ-*āgrahāra* for his own as well as his parents' welfare. In registering this grant the charter makes an interesting proviso that five 'ploughs'

of land belonging to the illustrious Buddha should be excluded from it. This obligation would show that the land which could be tilled by five ploughs in a day was already granted to the Buddha, *i.e.*, to his image or the temple which enshrined it, evidently for worship and maintenance. This is significant for it shows that the worship of the Buddha continued in Northern India till the latter part of the 12th century of the Christian era. That it was extant there in the first half of that century is evidenced by the temple of the Buddha which was founded by Kumaradēvī, a queen of Gōvindachandradēva of Kanauj. The third inscription is a charter of king Vīravarmadēva. It is dated in *Saṁvat* 1311 and records the grant of the village named Ṭumuṭumā (or Dumudumā), which lay in the district (*vishaya*) of Ḍāhī, to one Rāuta Abhi (? or Ati) who had displayed great valour in a fight which took place at Sōṁdhī with one Dabhyuhaḍavarmman. Though this grant was also made for the merit of the king and of his parents, yet it is different from other grants in that it was made in recognition of a heroic deed. It was also issued from Vilāsapura. The fourth inscription records the grant of the village of Kōkaḍa (?) lying in Vēdēsaitha-*vishaya* and is dated in *Saṁvat* 1346. It purports to belong to the rule of a Chandēlla chief whom it calls *Śrī*-Hammīravarmadēva. Apparently, he is a new ruler. The charter describes him as meditating on the feet of the *Paramabhaṭṭāraka Mahārājādhirāja Paramēśvara Śrī*-Vīravarmmadēva who meditated on the feet of the *Paramabhaṭṭāraka Mahārājādhirāja Paramēśvara Śrī*-Trailōkyavarmmadēva who in his turn meditated on the feet of the *Paramabhaṭṭāraka Mahārājādhirāja Paramēśvara Śrīmat*-Paramarddidēva. From the Ajayagaḍh inscription of Nānā[1] it would appear that the Chandēlla king Bhōjavarman was reigning in *Saṁvat* 1346 (*i.e.*, A.D. 1289). *The Chronology of India*[2] mentions Bhōjavarman as the son and successor of Vīravarman. In view of the genealogy given in these records and the relationships of some of the rulers of this dynasty shown by Kielhorn in the *Supplement* to his *List of Inscriptions of Northern India* it will not be unreasonable to surmise that Hammīravarmadēva was the brother of Bhōjavarmadēva who ruled for a short time before the latter ascended the throne. Or, perhaps, he was a distant relative and his rival. The charter calls him Sāhi (*i.e.*, *Shāh*) and not the lord of Kālañjara. The inscription is badly written and is full of mistakes. Consequently the reading of some of the names of the chiefs given in it is not free from doubt.

Śittannavāśal Cave Inscriptions.

The inscriptions which I copied at SITTANNAVĀŚAL and MALAYAḌIPPAṬṬI in the Pudukōṭṭai State of the Madras Presidency during my short tour also require a brief notice. Śittannavāśal seems to have been a very important locality in early days. The hill bearing this name presents a picturesque scenery. The designation would show that it was so named after some *siddhas* or 'adepts' who might have resided there. Or, perhaps, the place was so named in contrast

[1] *J. A. S. B.*, Vol. VI, p. 882 (Kielhorn's List, No. 247 and Synchronistic Table for Northern India, A.D. 400 to 1400).
[2] By C. Mabel Duff, p. 206.

with the adjacent village Annavāśal and the appellation meant Annavāśal the smaller. There is a small village about a mile to the west which was probably called after this hill. At its top there is a natural cavern formed by a cleft which divides the overhanging top portion from the rocky floor below and is locally known as *ēḻaḍippāṭṭam* on account of the seven (*ēḻu*) square holes used as steps. Seventeen beds are chiselled in this cave. One of these beds is marked by an old inscription which is written in the early Brāhmī script of about the 3rd century B.C. and is similar to those which I have mentioned in my previous reports. I studied this inscription carefully and found that the word *nāṭu* was quite clearly written there. This word obviously stands for the Tamiḻ term *nāḍu* (country) and leads me to think that Mr. K. V. Subrahmanya Ayyar's interpretation of these records is quite cogent. On the other side of this cavern there is a cave which was possibly excavated about the 7th century A.C. It consists of a verandah and a cell both enshrining seated images of some Tīrthaṅkaras, Pārś-vanātha and others. The cave has got fresco paintings showing great artistic skill like those we see at Ajanta and some other places. Availing myself of this short tour I arranged to get prepared on the spot several photographs as well as tracings of the mural paintings in the cave. These I intend to publish in the form of a Memoir on Śittannavāśal. The paintings on the ceiling of the cell show marked resemblance with the pictures found in some of the Jaina manus-cripts particularly from Gujarāt (Kāthiāwār). The figure painted on one of the pillars of the verandah seems to be a portrait. The head-gear looks like a Pallava crown and, together with the architectural ornamentations we see in this cave, would indicate that the figure wearing it might represent the Pallava king Mahēndravarman I. Towards the south of this cave I found four new but short inscriptions written in the early Pallava-Grantha script. They are mere names of pilgrims or visitors no doubt, yet it is significant that they are written in the alphabet which belongs to the 7th century (A.D.), *i.e.*, to the time when the Pallava king Mahēndravarman I flourished. The Tamiḻ inscription engraved on the left side of the cave belongs to the reign of the Pāṇḍya king Avanipa-śēkhara *alias* Śrīvallabha and records that a certain Ilaṅgautaman, also known as Madirai Āśiriyan, repaired the inner *maṇḍapa* and added another *maṇḍapa* in front of the temple, *i.e.*, evidently, the cave itself. This addition, however, does not exist now. The palæography of the inscription does not afford con-clusive proof as regards the time when it should have been incised. But as an unpublished inscription[1] of Varaguṇa II mentions Avanipaśēkhara-chaturvēdi-maṅgalam, there is no doubt as to the king's identity with Śrīmāṛa Śrīvallabha of the Śiṇṇamaṇūr plates, whose reign came to an end in A.D. 862. A coin of this Pāṇḍya ruler has also been found. The late Dr. Hultzsch published it in the *Indian Antiquary*[2]. This inscription, it is. interesting to observe, calls the cave Aṛivan-kō[y]il, *i.e.*, 'the temple of Aṛivan, *i.e.*, Arihan or Arhat.' This Aṛivan is, no doubt, the Tamiḻ form of Arihan or Arhat and evidently stands for Jina. It is significant that the rock-cut temples so far found in Southern India

[1] See No. 46 of 1907 (Madras Epigraphical Collection).
[2] Vol. XXI, p. 323 (plate I, No. 8, facing page 324).

are Brahmaṇical and most of them were excavated during the time of the Pallava king Mahēndravarman I, *i.e.*, about the first half of the 7th century (A.C.). According to the *Periya-Purāṇam*, Mahēndravarman I was first an adherent of the Jaina religion but was subsequently converted to Brahmaṇism by the Tamiḷ Saint Appar[1]. If the surmise that the Śittannavāśal cave was excavated by this Pallava king is correct, it must have come into existence during the early part of his reign, *i.e.*, when he was a devotee of Jainism.

Delhi Museum Inscriptions.

Copies of four lithic records preserved in the DELHI FORT MUSEUM were sent by the Director General of Archæology in India for examination. Only one of these records is unpublished.

This is a bilingual record written in the Dēvanāgarī and the Arabic alphabets. The Dēvanāgarī version is dated in the Vikrama year 1573 (=A.D. 1517) and the [*Hijri*] year 923 (=A.D. 1517). It records the construction of a well by BĪBĪ ĀSĀ who is here spoken of as the daughter of Bahlōl Lōdī, the Sultan of Delhi. The details given for the Hijri year, *viz.*, 20th day of Ṣafar (=Saturday, the 14th of March A.D. 1517) would show that the record was set up about eight months before the death of Sikandar Lōdī II which took place on the 7th day of Zī-lqa'da Hijri 923, *i.e.*, 21st November 1517.

EPIGRAPHICAL SURVEY OF THE BOMBAY KARNATAK.

Two members of my office were deputed to the Bombay Karnatak during the year to continue the epigraphical survey. One of them, Mr. C. R. Krishnamacharlu,. B.A., Assistant Superintendent for Epigraphy worked in the BIJĀPUR District of the Bombay Presidency for some 3 months. He surveyed 229 villages situated in the Muddēbihāl and the Bāgēvāḍi *tāluks* and secured copies of 120 inscriptions. The other Mr. N. Lakshminarayana Rao, who is the Kanarese Assistant in my office, was sent to Poona to examine the old collection of the late Dr. Fleet and prepare a list of all the estampages of the Kanarese inscriptions stored in the office of the Superintendent, Archæological Survey, Western Circle. He found impressions of not less than 1,212 Kanarese inscriptions in that office. After listing them all according to my instructions he brought the estampages to Ootacamund for further study.

Mr. C. R. Krishnamacharlu copied 110 Kanarese inscriptions belonging to various ancient rulers of the Bombay Karnatak, such as the RĀSHṬRAKŪṬAS, the WESTERN CHĀḶUKYAS and others. A brief review of the main contents of the important records as reported by him is given here.

The collection has only two RĀSHṬRAKŪṬA records. One of them belongs to the time of king AMŌGHAVARSHA I (A.D. 814-15 to 877-78). It was found at Hūvina-Hippargi in the Bāgēvāḍi *tāluk* and registers the grant of the village Pūvina-Pippargi in Kannavuri-*vishaya* to a Brāhmaṇa called Gōleya-Bhaṭṭa. The gift is here described as Raṭṭamārtaṇḍa-*datti*, apparently because Raṭṭamārtaṇḍa was the title of Amōghavarsha, the royal donor. The other was found at

[1] See *Ind. Ant.*, Vol. XL, p. 216.

Narsalgi in the same *tāluk*. It belongs to the time of AKĀLAVARSHA, *i.e.*, Krishṇa III and is dated in Śaka 886, Raktākshi, Phālguṇa, solar eclipse (*i.e.*, A.D. 965, March 6, Monday). Its importance lies in its representing the founder of the Chāḷukya dynasty of Kalyāṇi, namely, TAILA II, as a subordinate of Krishṇa III, by calling him the king's *pāda-padm-ōpajīvin* and *Mahāsāmantādhipati* and in describing him as Chāḷukya-Rāma, Āhavamalla, Tailaparasa and Satyāśraya-kulatilaka also. According to this record Taila II was originally a vassal chief of the Rāshṭrakūṭa king Krishṇa III ruling the Tardavāḍi-Thousand country as *aṇuṁga-jīvita* (vassal's fief), but later on, probably sometime after the latter's death, he asserted his independence and re-established the power of the Chāḷukyas.

The WESTERN CHĀḶUKYA king JAGADĒKAMALLA JAYASIṀHA II has four inscriptions in the collection. They acquaint us with the names of some officers who were not known before, such as the *Mahāsāmanta* Mailarasa and Yādava-nārāyaṇa Nāgavarmarasa. In one of them, the king is styled as Trailōkya-malla and Vikramasiṁha. This is rather noteworthy for he is usually known by the title of Jagadēkamalla. This record does not specify any year, Śaka, regnal or cyclic, but is dated in Paushya, Amāvasyā, Sunday and Uttarāyaṇa-Saṁkramaṇa. As this combination took place on Sunday, December 23 in 1033 A.D. the record can safely be relegated to that year. One of the four inscriptions of TRAILŌKYAMALLA SŌMĒŚVARA I found during the year is dated in Śaka 971 (A.D. 1049-50). It calls Maiḷaladēvī the chief queen (*piriyarasi*) of this king. According to the inscriptions noticed by the late Dr. Fleet, Chandrikādēvī was the queen consort of Sōmēśvara I till A.D. 1047-48. Apparently therefore, she must have died by the time Maiḷaladēvī became the chief queen. Two of these records mention the hitherto unknown *Mahāmaṇḍalēśvara Gaṇḍa-bhēruṇḍa Manneya Vallabhadēvarasa* Guṇḍa-Sāhani, Malleya-Sāhani and Mailapadēva. Only one inscription of the reign of BHUVANAIKAMALLA SŌMĒŚVARA II was copied in the year. As it is dated in Śaka 990, Kīlaka, Āshāḍha, *ba.* 8, Wednesday (=25th June 1068 A.D.) it is clear that this king's rule commenced not later than the date given here. Accordingly this will now be the earliest known year for this king and not 1069 A.D. as was supposed before[1]. An inscription dated in the 20th year of the reign of TRIBHUVANAMALLA VIKRAMĀDITYA VI, *i.e.*, in Yuva, Pushya, *ba.* 11, Monday, Uttarāyaṇa-Saṅkrānti (=A.D. 1095, December 25) mentions *Yuvarāja* MALLIKĀRJUNADĒVA, the son of Vikramāditya VI, as governing the Tardavāḍi-Thousand country and would substantiate Dr. Barnett's surmise regarding the relationship of these two personages. It further shows that Mallikārjuna was the *Yuvarāja* even in A.D. 1095, *i.e.*, 15 years before the date of the inscription noticed by Dr. Barnett. Another inscription of this king mentions his Yādava feudatory *Mahāsāmanta* Sōmadēvarasa, the 'lord of Dvārāvatīpura,' whom we did not know before. *Pratāpachakravarti*-JAGADĒKAMALLA II has some four inscriptions in the present collection. The earliest belongs to the year 1142 A.D. and mentions a chieftain named

[1] *Bom. Gaz.*, Vol. I, pt. ii, p. 442.
[2] *Ep. Ind.*, Vol. XV, p. 26, f. n. 2.

Brahmadēva who is styled as *Sakalādhyaksha, Paṭṭasāhaṇi* and *Daṇḍādhīśa* and seems to be identical with Bammaṇayya or Barmadevarasa whom Fleet[1] noticed in connection with an epigraph of the following year, *viz.*, A.D. 1143-44. One belongs to the year 1144 and speaks of the Yādava subordinate *Mahāmaṇḍalēśvara* Hermāḍidēvarasa who also seems to figure in the third record though his identity is not certain for the inscription has no date in it. The fourth inscription lies at Sālvāḍigi and refers to one *Manevergaḍe Daṇḍanāyaka* Barmaya and also to certain events which took place in the time of the Rāshṭrakūṭa king SUBHATUṄGA who was called Kannara or Kṛishṇa and surnamed Akālavarsha. As this record mentions Mānyakhēṭa as the capital town, the said ruler must either be Kṛishṇa II or Kṛishṇa III for in the reign of Kṛishṇa I this capital had not yet been formed. It also mentions an officer named Horeyama-Sāmanta who is described as *Kṛishṇarāja-kaṭaka-prākāra* (*i.e.*, 'a rampart to the fort namely Kṛishṇarāja'), *Sāmantōttama* and the *taḷāra* of Mānyakhēṭa. A temple of Śiva called Horeyamēśvara was built by this person at Sāḷvāḍigi and king Śubhatuṅga made a *sarvanamasya* grant of land for that sanctuary. In a record found at Miṇajgi, the Western Chāḷukya king TRIBHUVANAMALLA VĪRA-SŌMĒŚVARA IV, is stated to have been camping at 'Marejara-*tīrtha* on the bank of the Gōdāvarī' in the Śaka year 1107 (=A.D. 1184). The two subordinates of this king, namely, Kaḷachurya Siṁhabhūpāla and *Mahāpradhāna* Naranārasiṁhadēva. the governor of Hagaraṭṭe-Three-Hundred, are mentioned in it. The former, *i.e.*, Kaḷachurya Siṁhabhūpāla must be identical with Siṅghaṇa who ruled independently in A.D. 1183 but was reduced to the position of a feudatory of the Chāḷukya throne in A.D. 1185. The Pagaḷaṭṭi, Hagaraṭṭige or Hagariṭṭage of these records is the same as Hagaraṭṭe and is identical with the modern Hagaraṭige which lies in the Nizām's Dominions within a distance of about 6 miles from Tāḷikōṭi[2]. The place is reported to contain several temples with inscriptions. A record of A.D. 1184 which was copied at Tāḷikōṭi speaks of another subordinate of Vīra-Sōmēśvara IV named *Mahāmaṇḍalēśvara* Virupa-rasadēva who was not known to us before. It describes him as a forest-fire to the Jaina religion, 'a destroyer of the Bauddha religion,' 'a demolisher of Jaina *basadis*,' and 'establisher of the Śivaliṅga-siṁhāsana.' He is further stated to have destroyed several *samayas* at Pariyaḷige, Aṇiḷevāḍa (Anhiḷwāḍ), Uṇukallu (Uṇkal). Saṁpagāḍi (Sampagaon), Ibbalūru (Ablur?), Māruḍige (Maradigi), Aṇampūr (Alampur), Karahāḍa (Karāḍ), Kembhāvi, Bammakūru and other places. Possibly he belonged to the Baisa family.

An inscription copied at Muttigi supplies the interesting information that about the year A.D. 1158, the Kaḷachurya Bijjaḷa's officer *Daṇḍanāyaka* Śrīdhara was ruling over the Tardavāḍi-Thousand country. That he governed the Beḷvoḷanāḍu and the territory lying in the vicinity of Aṇṇigere in 1157 is already known. Two inscriptions belonging to the year A.D. 1165, were found in the same village. One mentions a new official of Bijjaḷa, *viz.*, *Rājādhyaksha Suṁkavergaḍe* Dāsimayya-Nāyaka, the son of *Sēnādhipati Śrīkaraṇa* Haridēvayya-

[1] *Bom. Gaz.*, Vol. I. pt. ii, p. 458.
[2] *Ep. Ind.*, Vol. XII, pp. 306 ff.

Nāyaka, of the Agastyavaṁśa and the other describes Sōvidēva, the son of Bijjaḷa as the 'king of Kuṁtaladēśa,' apparently, because he was associated with his father in the work of administration at that time. Sōvidēva's capital Modeganūru is mentioned in a record of A.D. 1170 which was also found at Muttigi. It mentions a new officer of the king, namely, Kēśavadēvayya, with the titles *Mahāpradhāna*, *Sēnādhipati* and *Hiriya-Daṇḍanāyaka*.

Of the Yādava king BHILLAMA, for whom we do not have many records, the collection has three inscriptions. Two of them are dated in his third year, Saumya, and mention his subordinate officers, namely, *Mahāpradhāna* Magaramurāri Lakshmīdēva-Nāyaka and *Mahāmaṇḍalēśvara* Virupadēvarasa who were not known before. The third which is also lying at Muttigi purports to be a record of his 'eighth year,' Paridhāvin (=A.D. 1192) and is important because it extends the king's reign by one year, *i.e.*, from 1191 to 1192 A.D. On the strength of this epigraph as well as on the evidence of the stone inscriptions at Nimbaḷ which was noticed a few years ago,[1] it can safely be surmised that Bhillama's reign commenced in 1185 and not in 1187 A.D. as was assumed by Fleet. In the present collection we have got a noteworthy record which would suggest that the initial year of the Yādava king Siṅghaṇa's reign was A.D. 1197 and not 1199 or 1200 as was formerly supposed. The record of the Yādava king KANHARA (Krishṇa) belonging to the year 1251 A.D. speaks of the *Mahāmātya Mahāpradhāna* Chauḍi-Seṭṭi and giving him the titles *Rāyadaṇḍādhīśa* and *Sarvādhikārin* describes him as governing the Two Beḷvola divisions, Banavāsi-Pāṇḍināḍu, Hānuṁgal-Pāṇḍināḍu and Tardavāḍi countries. His uncle Raṅgarasa who was managing the villages of Sālvāḍigi, Bāgēvāḍi, etc., is stated to belong to the Śilāra-kula which might have been a local branch of the Śilāhāra family. The two records, one of which is of A.D. 1256 and the other of A.D. 1257 call the king '*Hammīra-rāya-nirmūlachchhēdana*,' *i.e.*, the uprooter of Hammīrarāya. The latter refers to a territorial division called *Kannaḍa-Four-Thousand* which is also mentioned in the inscription copied at Kandagall last year.

The 1212 impressions of the inscriptions in the BOMBAY KARNATAK brought from the office of the Superintendent, Archæological Survey, Western Circle, as remarked above, have all been listed and are being transcribed by Mr. N. Lakshminarayana Rao. They represent practically all the dynasties that held sway over the Kanarese Districts from the 6th to the 16th century (A.D.) Their analysis and classification would show that 4 of them belong to the EARLY CHĀḶUKYAS of Bādāmi, 29 to the RĀSHṬRAKŪṬAS of Mālkhēḍ, 305 to the CHĀḶUKYAS of Kalyāṇi, 29 to the KAḶACHURYAS of Kalyāṇi, 23 to the HOYSAḶAS, 108 to the YĀDAVAS of Dēvagiri, 3 to the SINDAS, 29 to the KĀDAMBAS of Hāṅgal and Goa, 4 to the GUTTAS, 6 to the RAṬṬAS, 5 to the ŚILĀHĀRAS, 1 to PĀṆḌYAS of Uchchaṅgi, 3 to the KĀKATĪYAS, 57 to the VIJAYANAGARA kings, 7 to the SĀḶUVAS and 1 to the NĀYAKAS of Keḷadi, the rest being unassignable to any dynasty. This collection, it may be pointed out, includes impressions of the 225 inscriptions which we copied during the last four years and, also, of the 45 inscriptions which have already been published either in the *Epigraphia Indica* or elsewhere.

[1] *A. S. R.*, 1924-25, p. 120.

Omitting such impressions, we have secured estampages of 942 new inscriptions and thereby brought the total of the Kanarese inscriptions copied in the Bombay Karnatak to 1885. This means that nearly half the work we had to do in regard to the epigraphical survey of the Bombay Karnatak has now been accomplished.

A detailed list of all these epigraphs is being compiled and will be published in the *Annual Report on South Indian Epigraphy.* The contents of some of the important records of this collection may briefly be noticed here.

Of the EARLY CHĀḶUKYAN inscriptions, two are of the reign of VIKRAMĀDITYA and the third of VIJAYĀDITYA. Owing to their bad preservation it is difficult to decide whether the Vikramāditya they mention is the first king of that name or his great-grandson.

An epigraph at Haḷeritti, which is dated Śaka 850 and refers itself to the reign of the NITYAVARSHADĒVA is noteworthy in that it confirms the surmise[1] that 'Nityavarsha' must have been a surname of the Rāshṭrakūṭa king Gōvinda IV as well as of his father Indra III. Further, it enables us to determine the family to which Baṅkēya, the governor of Banavāsi-nāḍu, belonged, for it clearly says that he was of the Chellakētana[2] lineage.

The earliest date assigned by Fleet to JAYASIṀHA II of the dynasty of the Chāḷukyas of Kalyāṇi was A.D. 1018. But an inscription at Kaṇwaḷḷi, in the Karajgi *tāluk* of the Dhārwār District, supplies us with an earlier date for him, *viz.*, Śaka 939, Piṅgala which is equivalent to A.D. 1017. Siriyāgarasa of the Māṭūra-*vaṁśa* is mentioned here as governing, under Mūkarasa, the two 'Seventies' and the five 'Twelves.' Both these officers seem to be new. It is not yet definitely known what particular geographical divisions the two 'Seventies' and the five 'Twelves' signify. In an inscription[3] at Hechche in the Sorab *tāluk* of the Mysore State, one Śāntivarman of the same family of Māṭūra is said to have been administering Beḷguhe-70, Eḍenāḍ-70, Tandavūra-12, Geḍaya-12, Mugunda-12 and Pulivatti-12, during the reign of Taila II. Since the Sorab and the Karajgi *tāluks* are adjacent to each other, it may be assumed that the two 'Seventies' mentioned in this record were Beḷguhe-70 and Eḍenāḍ-70. Similarly the four 'Twelves' of the Hechche inscription might be identified with four of the five 'Twelves' of this record, the fifth being left out. Jōgabbe, wife of *Mahāsāmanta* Kundarasa is stated, in a record of the same reign, dated in Śaka 941, Siddhārthin (=A.D. 1019), to have made a grant to the temple of Sahadēvēśvara at Ajjaḍi when she was administering the village. Though it was known that Kundarasa was a son of the Chāḷukya king Iriva-beḍeṅga-Satyāśraya, the name of his wife is revealed to us here for the first time. This lady is described as the *ātmaje* (daughter) of Barma and *anusute* (niece ?) of Vibhu-Rāchamalla, but we are not told to what family these personages belonged or what positions they occupied. In an inscription at Kallihāḷ of the same reign bearing the date Śaka 956, Bhava (=A.D. 1034), the king is said to have made a grant to the temple of Sahadēvēśvara at the request of Lakshmādēvī; but

[1] *A. S. R.*, 1926-27, pp. 191 f.
[2] *Ind. Ant.*, Vol. XXXII, pp. 221 ff.
[3] *Ep. Carn.*, Vol. VIII, Sb. 477.

her relationship to the king is not specified. If, as it appears likely, she was a queen, she would be the second known wife of this king, the first being Suggaladēvī[1]. An inscription found at Āḍūr and dated in the same year (Śaka 956) mentions the *Banavāsi-puravar-ēśvara* Mayūravarman as governing the Pānuṅgal-500 in the capacity of a subordinate of *Mahāmātya Perggaḍe* Mādiṇayya, the governor of the Banavāsi-12,000 province. This Mayūravarman, it may be pointed out, might have been the homonymous Kādamba officer of Jayasiṁha II but not Mayūravarman II as was assumed by the late Dr. Fleet, for the latter came in much later, *i.e.*, in A.D. 1131[2]. It is not certain whether the Mādiṇayya of these two records is identical with his namesake who figures as a tributary of Sōmēśvara I in a record at Sirūr in the Muṇḍargi Pēṭha. According to Fleet, Kalyāṇa was made the Chāḷukyan capital by Sōmēśvara I and the first epigraphical mention of the place was in a record of A.D. 1053. An inscription at Bijāpur tells us that Kalyāṇa was the capital of Jayasiṁha in Śaka 958, Śrīmukha. It may be observed here that the year Śrīmukha of this record corresponds to the year 955 and not to 958 of the Śaka era. Jayasiṁha was, however, the reigning king during both these years. Kalyāṇa must therefore have been one of the Chāḷukyan capitals several years before Sōmēśvara's accession to the throne. The late Dr. Bühler, it may be added here, was, therefore, right in thinking that the place (Kalyāṇa) was only beautified by Sōmēśvara[3]. The collection gives another inscription of this reign which mentions a new feudatory Ānandapāla-Daṇḍanāyaka who ruled at Tardavāḍi.

An epigraph at Harati belonging to the reign of VIKRAMĀDITYA VI is of great interest as it throws considerable light on the way the religious and allied institutions were managed in those days. It is dated in the Chāḷukya-Vikrama year 15, Pramōdūta (=A.D. 1090) and tells us that *Rājaguru* Indraśivadēva whose feet were worshipped by Tribhuvanamalla (*i.e.*, Vikramāditya VI) and other kings was administering the *ghaṭikāsthānas* and other religious institutions in the seven-and-a-half *laksha* country, *i.e.*, the major portion of the Chāḷukya dominions. His *pāda-padm-ōpajīvin* Śaktiśiva-*paṇḍita* was in charge of the management of Śōbhanēśvara and other temples which probably stood to the south of the river (*toṛe*) Krishṇā. Indraśivadēva granted certain rights to the *gāvuṇḍas* of Harati at his instance. The *birudas Sakala-śāstra-pārāvāra-pāraga, Pātañjala-kula-kālōraga, Akaḷaṅka-mata-bhayaṅkara, Nyāya-vaiśēshik-āmbhōdhi-śarat-samaya-pūrṇachandra, Chārvāka-garva-parvata-mahēndra* and *Upanyāsa-kamalāsana* applied to him would show that Śaktiśiva was an erudite scholar and philosopher.

Two inscriptions of Vikramāditya's successor SŌMĒŚVARA III of A.D. 1134 and 1135 refer to an invasion by the Hoysaḷa king Vishṇuvardhana on a part of the Chāḷukya dominions. One of them states that a certain Mahādēva fought the Hoysaḷa Biṭṭidēva on the side of king Mallikārjuna. The other inscription records the death of a hero in a battle against Hoysaḷadēva who had invaded the fort of Pānuṁgal when the Kādamba Mallikārjunadēva was ruling the Pānuṁgal-

[1] *Bom. Gaz.*, Vol. I, pt. ii, p. 435.
[2] *Bom. Gaz.*, Vol. I, pt. ii, p. 562.
[3] *Ind. Ant.*, Vol. V, p. 318.

500. These statements not only prove that the conquest of Pānuṁgal by Vishṇuvardhana was an historical fact, but that the Hoysaḷas had been aiming at the Chāḷukya territory for a considerable time before they actually got possession of the southern portion of it in about A.D. 1187. 'Tribhuvanamalladēva' is given as the name of the king in a record of A.D. 1132 at Kyāsanūr in the Dhārwār district. As it was Bhūlōkamalla Sōmēśvara III who was then reigning, Tribhuvanamalla must be taken only as another *biruda* of the king.

So far the earliest mention of the Kaḷachurya usurper BIJJAḶA was believed to be in a record of A.D. 1151 where he figures as a subordinate of Taila III. But the present collection gives us an earlier inscription of Jagadēkamalla's reign which was found at Mhaswad in the Satārā District and in which the usurper is mentioned. It is dated in the 10th regnal year of the king and the cyclic year Prabhava (=A.D. 1147) and describes Bijjaḷa as *Mahāmaṇḍalēśvara.* This designation coupled with the fact that the record is dated in the regnal year of Jagadēkamalla II, proves that Bijjaḷa was a subordinate of the Chāḷukyas at least 10 years before he eventually usurped the throne in A.D. 1156-57.

An inscription that refers itself to the rule of a Kaḷachurya-Chakravartin MALLUGIDĒVA mentions Durmukha as the second year of the reign. According to a record found at Baḷagāme it was the second regnal year of the Kaḷachurya king Niśśaṅkamalla Śaṅkamadēva. Therefore, it looks probable that Mallugidēva was ruling at the same time as Śaṅkamadēva. Here we have to remember that according to certain known records Durmukha was the first regnal year of Śaṅkamadēva but according to others it was Hēmalamba[1]. The details of the date recorded in the epigraph, *viz.*, Mārgaśira, *su.* 5, Monday, correspond regularly to Monday, 8th November, A.D. 1176.

A new feudatory of the Yādava king BHILLAMA named *Mahāpradhānādhipati* Vaijarasa-Daṇḍanāyaka with the *biruda Abhinava-Vinuta-Chāṇakya* is mentioned in an inscription which is preserved in the Bijāpur Museum. The earliest epigraphical mention of Dēvagiri was considered to be in an epigraph of A.D. 1210 of the reign of Siṅghaṇa. But a record of his predecessor JAITAPĀLA dated in Śaka 1119, Naḷa (=A.D. 1196), which is represented in this collection, gives us an earlier reference for it mentions Dēvagiri as the capital of the Yādavas.

This collection includes two records of SIṄGHAṆA, one from Kurtakōṭi and the other from Mallūr. They respectively make the cyclic year Krōdhin and Viśvāvasu to be his 38th and 39th regnal years. The details of the dates recorded in them regularly correspond to 17th October, A.D. 1244 and 29th June, A.D. 1245. According to these two epigraphs the first regnal year of this ruler fell in A.D. 1207. On the other hand, the two records at Kandagall, which were noticed last year, would make A.D. 1200 to be his first year. Dr. Fleet, on the contrary, gave A.D. 1210 as the initial year of Siṅghaṇa's reign. So, we are not at present in a position to say definitely when the accession of Siṅghaṇa actually took place. Further discoveries might solve the question finally. The latest date for his reign, *viz.*, Śaka 1169, Plavaṅga, Jyēshṭha, Amāvāsyā is now furnished by an inscription at Lakshmēśvar and it corresponds to 4th June, A.D.

[1] *Bom. Gaz.*, Vol. I, pt. ii, p. 487, f. n. 1.

1247. Accordingly, we have to infer that he was succeeded by Kṛishṇa sometime after June 1247 and not earlier. *Rājaśrēshṭhin* Sāgaradatta, who made the grant registered in this record, is said to be the son of Bāchirāja, the well-known officer of Siṅghaṇa. Bhāgu-Bāyi, who, according to an epigraph of A.D. 1244, was ruling the Tardavāḍi, Bāḍa and Kaṇaṁbaḍe districts, is described in it as a *Paramaviśvāsin* of king Siṅghaṇa and in another undated record she is styled *Sarvādhikārin.* At present, we have no means of ascertaining whether she was one of his queens or some other person.

The Raṭṭa chief LAKSHMĪDĒVA II is represented by a record which was found at Bādli in the Belgaum district and is dated in Śaka 1141, Pramādi (=A.D. 1219). The only other dated inscription of this king known to us is dated in Śaka 1151, *i.e.*, 10 years later than the present one. The Bādli inscription enables us to fix his initial year. The latest recorded date of his predecessor Kārtavīrya IV is December, 1218 A.D. Consequently, Lakshmīdēva must have ascended the throne in 1219 A.D.

PUBLICATIONS.

Epigraphia Indica.

In the year under report, material for eight parts of the *Epigraphia Indica* was sent for publication to the Government of India Press, Calcutta. Out of these eight, only three parts, *viz.*, part viii of Volume XVIII and parts v and vi of Volume XIX have actually been issued and the remaining five, *viz.*, parts vii and viii of Volume XIX and parts i to iii of Volume XX are in different stages of printing. The three parts which have come out contain several interesting contributions by eminent epigraphists. Leaving aside the continuations of the papers which had partly appeared in the previous issues, twenty-four complete articles were published in these three parts of the *Epigraphia.* They were contributed by twenty-one scholars and deal with important documents written in various languages and scripts like Aramaic, Kharōshṭhī, Kanarese, Telugu, Tamiḻ and early Nāgarī. In date these inscriptions range from about the 3rd century B.C. to about the 16th century A.C. The contents of the epigraphs which are specially noteworthy may be briefly noticed here. Dr. E. Herzfeld's note on 'A New Asokan Inscription from Taxila' deals with the earliest of these documents. In it he offers a new interpretation of the Aramaic inscription which Sir John Marshall discovered some years ago. That the document was older than the Christian era was clear from its palæography but scholars held different views regarding its meaning. Dr. Herzfeld reads the title *Priyadarś-(ana)* and the epithet *mārāna* in lines 9 and 12 of it and opines that the record is of the Maurya Emperor Aśōka and was issued in Aramaic with a view to propagate Buddhism in the countries situated to the north-west of India. Next come the contributions of Dr. Sten Konow. They deal with three Kharōshṭhī inscriptions, two of which were discovered in 1924 at Shahdaur in the Mānsehrā *tahsil* of the Hazāra district. The first is dated in the year 60 and belongs to a certain *Rājan* Naśmiḻiada who is not known to us from any other source. The

era to which this year belongs, says he, must be different from, and earlier than, the well-known Śaka era which commenced in 78 A.C. The second inscription which seems to be dated in the year 80 of the *Maharaya* Aya (=*Mahārāja* Azes) mentions one Śivarakshita who, Dr. Konow thinks, might have been a Kshatrapa at Shahdaur itself or at Taxila under the Śakas or Parthians. In the remaining article, the same scholar has demonstrated that the Rāwal inscription is nothing but a clumsy copy of the Shakardarra inscription of the year 40. The person who put it up in a well he had sunk or in some other place endowed by him, he thinks, brought it to Mathurā from Shakardarra where he had seen the inscription on the occasion of some travel, for the benefit of his own donation in Mathurā. He rightly remarks that it cannot be taken as an evidence showing that Kharōshṭhī was ever used as a script by the native population of Mathurā where Brāhmī was the usual script in vogue. I am also of the opinion that the record is not genuine.

Two other Kharōshṭhī records have been edited by Mr. N. G. Majumdar in the same issue of the Journal. One of them is now deposited in the Peshāwar Museum. It is dated in the year 168 of an unspecified era and records the excavation of a well in a monastery. The other comes from Jamālgaṛhī in the district of Peshāwar where Mr. Hargreaves discovered it in 1920. It is dated in the year 359 of an unnamed era. Both of these dates Mr. Majumdar assigns to the Vikrama era of 57 B.C. The late Mr. R. D. Banerji's article on the Junāgaṛh inscription of Jivadaman (I) (cir. 2nd century A.D.), Mr. R. R. Halder's paper on the Baṛwāni copper-plate inscription of Mahārāja Subandhu (cir. 5th century A.D.), the note on the Pulibūmra and the Peddavēgi plates of the Eastern Chāḷukya king Jayasiṁha I by Mr. V. Rangacharya have also been published in these parts. The Dhauli cave inscription of Śāntikara which has been edited in the 6th part by the late Mr. R. D. Banerji is important in that the date given in it, *viz.*, 93 apparently of the Gaṅga era, supplies a datum for fixing the period of the dynasty to which this ruler belonged. It is not improbable that the Śāntikara of this record was a descendant or successor of Śubhakara of the Neulpur grant. Messrs. D. B. Diskalkar and K. N. Dikshit have jointly edited the two Harsōla copper-plate grants. Both were issued in the Vikrama Saṁvat 1005 by the Paramāra king Sīyaka II whom they describe as the feudatory of Akālavarsha, the successor of Amōghavarsha. The authors of this article are of opinion that the two Rāshṭrakūṭa kings mentioned in these charters may either be Kṛishṇa II and Amōghavarsha I or Kṛishṇa III and Amōghavarsha III.

Mr. S. Paranavitana's paper on an inscription of the Ceylon king Vijayabāhu I, continued from part vii of Volume XVIII, has also been completed in these issues. The inscription with which this paper deals comes from Polonnaruva, the mediæval capital of the kings of Ceylon and is couched in Tamil prose, except for the opening verse which is in Sanskrit. It gives an eulogistic account of the king who is called Saṅghabōdhivarman *alias* Vijayabāhudēva. No date is given in it but we are told that Vijayabāhu after bringing the island of Ceylon under his sway ruled for 55 years and passed his 73rd birthday. According to the *Mahāvaṁsa*, the king's rule lasted for 55 years. So, Mr. Paranavitana concludes

that the inscription must have been written after the death of Vijayabāhu. Its object is to record the undertaking given by the Vēḷaikkāra forces to the royal preceptor Vyāriṇi Mugalan to protect the Tooth Relic of Buddha in the monastery of Uturoḷmuḷa constructed by a general named Dēva at the command of the king. Besides giving an account of the reign of Vijayabāhu, the author has discussed the origin and position of the Vēḷaikkāṛas who are mentioned in the inscription.

Mr. Padmanatha Bhattacharyya's note on the Third Lost plate of the Nidhānpur plates of Bhāskaravarman, Rai Bahadur Hiralal's informative article on the Amōda plates of the Haihaya king Jājalladeva II of the Chēdi year 912, Mr. Y. R. Gupte's paper on the Kōṇḍeḍḍā grant of Dharmarāja, Mr. C. R. Krishnamacharlu's article on the Garavapāḍu grant of Gaṇapatidēva of the Kākatīya dynasty, Mr. K. M. Gupta's article on the Bhāṭēra copper plate inscription of Gōvindakēśavadēva (cir. 1049 A.D.) and Mr. A. S. Ramanatha Ayyar's article on the Peruneyil record of Kulaśēkhara-Kōyiladhikārigaḷ have also been published in the aforementioned parts of the *Epigraphia*. They have got their own interest and need not be dilated upon in this resumé. Dr. Barnett's article on the Six Inscriptions from Kōḷūr and Dēvagēri which commenced in part iv was concluded in part v of Volume XIX. Five of these inscriptions relate to the feudatory chiefs of the Jīmūtavāhana or the Khachara family. They are of different dates and represent the chiefs as administering the district of Bāsavūra-140 in the Banavāse-Twelve-Thousand. Kaliyammarasa I, who was a subordinate of the Western Chāḷukya king Sōmēśvara I in 1045 and of Sōmēśvara II in 1075, Kaliyammarasa who was a tributary of Sōmēśvara III in 1134, Hermāḍiyarasa, an officer of Vikramāditya VI in 1121 and Mallidēvarasa, a subordinate of the Yādava king Siṅghaṇa are the chiefs who figure in these records. While Hermāḍiyarasa is stated to be the son of Kaliyammarasa, the relationship of the remaining personages is not specified. Two of these records mention a certain functionary named Rājagurudēva of the Kādamba lineage who is described as the guardian of the Koṅkaṇs and as administering 'the twelve towns' for the benefit of the temple of Indrēśvara at Baṅkāpura. The Gadag inscription of the reign of Jayasiṁha II which Dr. Barnett has also edited in this article refers to the construction of the temples of Bāraha-Nārāyaṇa and Traipurushadēva by Dāmōdara-Seṭṭi. It celebrates the excellences of Dāmōdara and of his family. An inscription of Rōṇ which is edited by the same scholar belongs to the reign of the Kaḷachurya king Saṅkamadēva and is dated in Śaka 1102 (=A.D. 1179). The Sinda chief Vikramāditya, is stated to have made some gift to the temples of Chāmēśvara and Māḷēśvara at the request of one of his high officers named Bāchaya Sāhaṇi. This record is important for fixing the genealogy of the Sindas. It describes the exploits of Āchugi II and Permāḍidēva at some length. In doing so it states that Āchugi II conquered the Male or the Highlands of the Ghāṭs, defeated the king of Ḍāhaḷa, sacked Uppina-kaṭṭe and killed the Gaṅga of Kaḍāra and that Permāḍidēva captured the Hoysaḷa king's elephants and treasure waggons as well as the Toraha himself.

The Kumbakonam inscription of Sevvappa is another interesting document which was also published in these parts. The late Mr. G. Venkoba Rao contri-

buted a note on it. In date the document is assignable to A.D. 1580. It mentions a temple of Buddha at Tiruvilandurai and registers the gift of land which the king Śevappa-Nāyaka made for that sanctuary. From the evidence of the two seated Buddhist images which are found near Kumbakonam, one in the temple at Paṭṭīśvaram and the other outside the Gaṇēśa shrine in the Āṇaiyaḍi Street, the author inferred that Buddhism continued to survive in the Tanjore district of the Madras Presidency till the 16th century to which the records belongs. Negapaṭam was a stronghold of Buddhism and it lay in the Tanjore district. The large Leyden plates record the grant of the village of Āṇaimaṅgalam to a Buddha temple at Negapaṭam during the time of the Chōla king Rājarāja I (A.D. 985-1010). The smaller Leyden grant dated in the 20th year of Kulōttuṅga I (A.D. 1090) records gifts to two Buddhist temples and it is interesting to observe that a number of metallic Buddhist images were unearthed at Negapaṭam recently. This record, it may be observed, ends with the expression *[Sa]mayattār Gurukkaḷ* which, possibly, means the teachers of the Convention of the Buddha.

The South Indian Inscriptions.

Good headway was made in the publication of the *South Indian Inscriptions* (Texts) Series. Mr. K. V. Subrahmanya Ayyar, who is in charge of this work, reports that during the year under review he checked various proofs of the 7th Volume with impressions of the inscriptions which are being published in it. More than half of the material constituting this volume is now ready for final printing and the rest is in the galley proof stage. The volume will give complete texts of some 870 inscriptions couched mostly in Tamiḻ and Kanarese, only a few of them being written in Telugu. They were copied in the years 1900 to 1902. Some 103 were, however, copied subsequently when fresh estampages were taken to replace the damaged or the missing impressions. Their contents are briefly reviewed in the *Annual Reports on South Indian Epigraphy* for those years and need not be dilated upon here. Some of these inscriptions, however, when re-examined by Mr. Subrahmanya Ayyar, proved to be of special interest and it will not be out of place to notice them here in some detail. One of them is at Kūram near Conjeeveram and registers an order issued by the Pallava king NANDIVARMA-MAHĀRĀJA to the assembly of Kūram in Ūṟṟukkāṭṭu-kōṭṭam whereby the temple worshipper was allowed to enjoy the six *paṭṭis* of land granted by Aggaḷanimmaṭi and the persons who owned them before were ejected. It is the only stone inscription known where this lady is spoken of. Possibly she was the chief queen of the Pallava king Dantivarman and a princess of the Kādamba family. If this surmise is correct, the Nandivarma-*Mahārāja* of this inscription would be identical with Nandivarman III who is known as the victor of the battle of Teḷḷāṟu. The Kiḻūr (Tirukkōilūr) inscription is another noteworthy record. It is written in Tamiḻ verse and belongs to the time of the Chōḷa king RĀJARĀJA I (A.D. 985-1013) being dated in his 27th regnal year. It registers a gift of land to the temple of Śiva at Tirukkōilūr which is described as the most ancient of all the eight *Vīraṭṭānas*[1] (=Sanskrit *Vīrasthānas*) and

[1] See *Annual Report on South Indian Epigraphy* for 1921-22, p. 99, para. 10.

speaks of the divine poet Kapilar stating that he gave in marriage the daughter of Pāri (one of the Saṅgam celebrities) left under his protection, to Malaiyan, *i.e.*, the chief of Tirukkōilūr and entered fire to get final beautitude. It also mentions one Kambattaḍigaḷ Vīdiviḍaṅgan, the lord of Vēli, as a donor of gold flowers and diadem to the god. While stating that this chief was also called Mahimālai-Mūvēnda-vēḷāṉ, it further tells us that at his instance the Chōḷa king Rājarāja I made a present of a silver *liṅga* with a silver *pīṭha* to that temple. Besides this, the graphic description of the conquests of Rājarāja I over the Pāṇḍya and the Chēra countries, over Ceylon, Udagai and Koṅgu which this record furnishes is of considerable historical interest. Another inscription of the same king found at Kūram informs us that the assembly hall of the village was provided with water for four months in the year, *i.e.*, during the hot weather, the premises were cleaned with cowdung once in four days and that annual repairs were executed to avoid depreciation. Another interesting fact revealed by this inscription is that an officer called *Tiruvaḍi* had to be present in the assembly during the time the transaction of business was executed and to give orders to the *madhyastha* of the village for getting the record engraved on stone.

Two of the epigraphs of the Hoysáḷa kings included in the volume register gifts made to the temple of Dēśināyaka at Nāgaiyaṉpaḷḷi (the modern Kambayanallūr) by the chief Uttamaśōḷa-gaṅgādarāyar and Madhurāntaka Vīranoḷamba-Vayiravaṉ-Poṉṉambalakkūttaṉ for securing success for the arms of the king as well as for the good of the donors themselves. This seems to indicate that the country was in a perturbed state and subject to some hostile attack to avert which these benefactions were made. We know that the Hoysaḷa king Vīra-Sōmēśvara established a second capital at Kaṉṉaṉūr near Trichinopoly and that in the last days of his reign the kingdom was shared by his two sons Narasiṁha III and Rāmanātha. One of them, *i.e.*, Rāmanātha ruled the territory round Kaṉṉaṉūr and the other, Dvārasamudra and the surrounding parts, though both aspired to the Hoysaḷa kingdom. During the short rule of Rāmanātha's son Viśvanātha, Ballāḷa III, who succeeded Narasiṁha III at Dvārasamudra, made an endeavour to unite and consolidate the Hoysaḷa dominion. It is, therefore, not unlikely that the troubles alluded to in the two records of Kambayanallūr were connected with his (*i.e.*, Ballāḷa III's) invasion. It may be observed in passing that though Ballāḷa III was successful in his attempt, yet he does not seem to have derived much benefit from his attack, for a considerable portion of the country appears to have been appropriated by the Pāṇḍyas and certain local chieftains such as Madhurāntaka-Vīranoḷambaṉ who is mentioned in an inscription which belongs to the year 1303 (A.D.) and was found at Tukkōjinahaḷḷi in the Salem District.

The inscriptions of Tāramaṅgalam in that very district reveal to us the existence of a flourishing family of Veḷḷāḷas called Tāramaṅgalam Mudalis. In the 13th century (A.D.) when the country was under the rule of Rāmanātha (A.D. 1255-1290) and Jaṭāvarmaṉ Sundara-Pāṇḍya II whose accession took place in A.D. 1276-77, these Mudalis, it may casually be noted here, became very prominent and performed several meritorious deeds which not only added

to their pomp and glory but made them assume high-sounding epithets like *Mannar-vaṇaṅgiḍum-vaṇaṅgāmuḍi-muḍali*. One of these epigraphs speaks of Sōmanāthadēva, the father of Śrīkaṇṭhadēva of the Vaḍavāḷa family who was known as *Gauḍachūḍāmaṇi* or the crest-jewel of Gauḍa. Two other inscriptions which are now being published in the said volume register gifts made by a chief named Vīra-Champa who was also called Śambuvarāya of Śambukula. One of them belongs to the sixth year of the reign of Śaṭagōpavarman Vikrama-Pāṇḍya —whose accession took place in A.D. 1249—and the other, to the 12th year of the reign of Māṟavarmaṉ Sundara-Pāṇḍya II who ascended the throne in A.D. 1237. So the gifts registered in these inscriptions must have been made in the years A.D. 1249 and A.D. 1255. Consequently, the Vīra-Champa of the two records which have already been published in the *Epigraphia Indica*[1] must be a different personage. If these two Vīra-Champas belonged to one and the same family, which they probably did, the second must be considered to be the grandson of the first and Vīra Choḷa, his son.

Miscellaneous Epigraphical Work done in Circles and Museums.

According to the reports which I have received from the officers concerned, it would appear that no epigraphical work worth mentioning was done in the Frontier, the Northern, the Western and the Central Circles of the Survey. The work done by the members of my staff at the Archæological office, Poona, and in the Bombay Karnatak has already been reviewed above. In the Eastern Circle four epigraphical finds were made but they are of little consequence and need not be noticed in this resumé.

Burma Circle.

As to the progress made in epigraphy in the Burma Circle, Mons. Duroiselle informs me that altogether twenty-nine new inscriptions were found this year. They are written in six different languages, one in Sanskrit, two in Pāli, three in Pyu, one in Chinese, two in Pāli and Burmese and Talaing and the rest in Burmese. Besides these, short votive records in Pāli, Burmese and Talaing written on terra-cotta tablets were also secured. "The Sanskrit inscription," Mons. Duroiselle reports, "was found in a village in Kyaukphyu District, Arakan." It is only a fragment and contains a Sanskrit version of the well-known Buddhist formula, "Yē dharmā hētu prabhavā, etc." It is in an early north-Indian alphabet, and was incised on a sandstone which is fairly hard in texture. One peculiarity of the writing consists in the way the letter *ha* is written, and this may be noticed here briefly. It is in the form of *J* with a straight down stroke and a curve to the left at its lower limb. As has already been noticed in the report for last year, this form was met with in another short inscription of the same kind, engraved round the pedestal of a small bronze image of the Buddha which was found at Old Prome. The same form was also met with in another inscription (unpublished) of the same kind found at Wethali, Myohaung Township, Arakan. But that form is not given in the palæographical tables of Burnell, Bühler and

[1] Vol. III, pp. 70-71.

Pandit Gaurishankar Hirachand Ojha. However, a form closely resembling it was used in the inscriptions of Chandragupta II and Kumāragupta.[1] It is noticeable particularly in that of the latter where it was used at the same time with the hook form (ʒ). There can be no doubt that the form under considera-tion was evolved from the hook form partly due to the carelessness of the scribes, but the fact is that it remained established in the inscriptions of Arakan and Old Prome referred to above.

"While we are on the subject, it may be pointed out here that there is another form of *ha* which seems to be peculiar to the country and which is not noticeable in the palæographical tables mentioned above. It is in the form of the older tripartite *Ya* with a long central stroke. It was met with in com-bination with the subscript *ya* (*hy=avadat*) in the short Sanskrit version of the Buddhist formula found engraved round the pedestal of the small image of the Buddha in bronze noted above. This should be borne in mind when checking the reading of legends on some of the old coins of Arakan figured in Plate II of Phayre's *Coins of Arakan, of Pegu, and of Burma*, and Plate XXXI of the *Cata-logue of Coins in the Indian Museum, Calcutta*, Volume I.

"Three new Pyu inscriptions were added to the list this year, one being found at Halin, and the other two at Hmawza (Old Prome). The Halin record which is incised on stone is in a very good state of preservation, but the other two are very much damaged. The latter also are engraved on stones; one is an one-line record of which only the second half can be read, but the inscribed surface of the other has peeled off and is in small fragments, and this renders the reading quite impossible.

"There can be no doubt that on palæographical grounds all of these Pyu epigraphs are earlier than the earliest Burmese records that have so far been discovered, but with the exception of a few proper names of Indian origin and Sanskrit loan words, it has not been possible to decipher them owing to the very scant knowledge we have of this long dead language.

"Two fragments of Pāli inscriptions were secured during the year. One is a writing in ink on a silver plate belonging to about the 13th century A.D. and the other is incised on stone. The former was found at Minnanthu, Pagan, and the latter at Bassein (Burma). Both contain extracts from the Pāli canoni-cal texts.

"Reference was made in the last report to the receipt of information about the existence of two inscribed stones at Sagu, and also to the effect that lack of time had prevented this office from visiting the spot. During the year under report, my Talaing Pandit visited the site and succeeded in securing estampages of those inscriptions. One stone measures 6′ 7″×5′ 2½″ and is inscribed *on both* faces. The inscription is bilingual, Pāli and Burmese. The other, measuring only 2′ 9″×3′, is in Burmese. Both were set up by a queen of Pagan, the mother-in-law of NARAPATI, King of Ava and builder of the Tupayon pagoda, Sagaing (1443-1469). They record the dedication of lands to monasteries, Simā images of the Buddha, and *Stūpas* founded by the queen. Incidentally, the

[1] Fleet, *C. I. I.*, Vol. III, Plate IV-A and Plate VI-A.

first record contains a list of the names of the children of that queen; the sons were governors of districts and the daughters wives of governors in the other districts. As acknowledged by the authors of the Glass Palace Chronicle, the standard Burmese history, the statements of different authors on the issues of successive royal families of Burma often vary. The Glass Palace Chroniclers evidently based themselves on our stone in giving the list of the children of that queen, which differs slightly from those given by other authors.

"The other stone inscription, in Pāli and Talaing, has already been noticed elsewhere. It was found while levelling up the ground in a private garden at Bassein (Burma). It is not dated, but on palæographical grounds it belongs to about the XV-XVIth century A.D. The inscription begins with four short verses in Pāli followed by explanations in Talaing and contains a very brief account of the life of Gautama from the time he first made his resolution as a *Bōdhisattva* to become a Buddha.

"The inscription in Talaing was found at the same site as the above, and it records the building of a shrine by a certain person over the foundations which had been laid by his father before his death. It is dated 895 Sakkarāj (1533-34 A.D.).

"The inscription in Chinese is the second of its kind that has so far been discovered in Burma, the first being a bilingual one, Chinese on one face and Pyu on the other, found at Pagan some years ago. But the latter is absolutely illegible; all the characters, except a dozen or so here and there, which themselves are not very legible, having completely disappeared. The present one is in a much better state of preservation and was found at a site about 19 miles from Bhamo.

"The stone on which it is incised is broken in three parts, and measures are being taken to have it preserved *in situ*. It was originally set up by a Chinese General in the 12th year of the reign of the Chinese Emperor Wanli (1573-1619) of the Ming dynasty to mark the spot, where he received the homage of Shan Chiefs in the name of the Emperor.

"Of the Burmese inscriptions, the earliest is dated in the Burmese Common era 600 and the latest 1194 corresponding to 1238-39 and 1832-33 A.D., respectively. They are all incised on stones and were found at Halin and the neighbouring villages, Pagan, Mindon and Sagu. Some are only fragments, and the purpose for which they were set up cannot be made out, but the rest record dedication of lands to pagodas and monasteries. The earliest inscription referred to above was found near a village called Mingon, about two miles to the south of Halin, and records the dedication to a pagoda of lands obtained by the author of the inscription after a law-suit."

Southern Circle.

In the Southern Circle, our epigraphical office in Madras copied 620 inscriptions from 147 villages. Only two of these inscriptions are incised on copper plates and the rest are written on stone. The two Vaṭṭeluttu epigraphs found at Erukkaṅguḍi in the Rāmnāḍ district are the earliest of the lot. They belong

to the 16th and the 18th regnal years of the early Pāṇḍya king Saḍaiyamāṟaṉ and record the benefactions of Iluppaikkuḍi-kiḻavaṉ who was the governor of Iruñchōḷa-nāḍu. One of them is in Tamiḻ verse and refers to the king by the names Neḍumāṟaṉ and Śrīvallabha and would show that his rule extended even up to Ceylon. Evidently he was the son of Varaguṇa-Mahārāja I and father of Varaguṇa II who was known as *Śrīmāṟaṉ* Śrīvallabha *Parachakrakōlāhala*. That he is called a scion of the Luni-Solar (*Sōma-Sūry-ānvaya*) race like his father, was, apparently, due to the fact of some of his ancestors having matrimonial connection with a solar family. In fact, one of the early Pāṇḍya kings, namely, Kūn or Sundara-Pāṇḍya had Maṅgayarkkaraśi as his queen who was a Chōḷa princess born of the solar line. The record gives Eṭṭi Śāttan as the original name of the chief of Iruñchōḷa-nāḍu and states that the epithet given above was a title conferred on him by the Pāṇḍya king as a mark of his favour. It further shows that besides Iruñchōḷa-nāḍu, this chief governed Kūḍarkkuḍi, Kuḷattūr, Paḷaiyūr, Iluppaikkuḍi, Paḷaiyaṅguḍi and Ālaṅguḍi. While recounting the gifts of this personage the record specifies the tanks he had dug in the villages under his jurisdiction and also the embankments he had raised or strengthened and the sluices he provided for irrigation. Though most of his tanks were known as Kiḻavanēri yet some were given special names also, such as, Tirumāl-ēri, Araśaṅguḷam and others. The reservoir that was dug at Śrīvallabhamaṅgalam or the city founded by the king himself when Eṭṭi Śāttan was the *ājñapti* was termed Tirunāraṇa-ēri. Another inscription from the same village dated in the 5th year of Māṟavarmaṉ Vikrama-Pāṇḍya (cir. 1283 A.D.) mentions Vikrama-Chōḷadēva as his brother-in-law and as an officer under the said Pāṇḍya king.

The inscriptions which were copied at Aṟappaḷḷīśvaram on the Kollimala hill belong to the early Chōḷa kings Parakēsarivarmaṉ, Uttama-Chōḷa and others. One of them engraved in characters of about the 12th century A.D. is dated in the 22nd year of a king called Ponnērivarman and purports to be a copy of an early copper-plate inscription. We have not got any data to identify this ruler, taking it for granted that the name of the king is given here correctly.

An inscription dated in the 19th year of the reign of the Chōḷa king Parāntaka at Piḷḷaippākkam supplies very interesting information regarding the village administration in the Chōḷa period of South Indian History. It shows that two persons who had no experience in such administration were removed, that taxes were paid through representatives, that lands were auctioned to realise taxes and that a fine of one *mañjāḍi* per diem was imposed on the member who sent a proxy to the assembly.

Three epigraphs from Aṟappaḷḷīśvaram refer to Viṟṟirundāṉ Śēmāṇḍār *alias* Akaḷaṅka-Nāḍāḷvāṉ of Tiruttavatturai (Lālguḍi). They are dated in the reign of a king named Rājādhirājadēva (probably the second of that name) who is, however, given no distinguishing epithets. One of them dated in his 10th year, regisrers some donations made to the temple of Tiruvaṟappaḷḷi-Uḍaiyār by a resident of Panaiyūr, a village in Urattūr-kūṟṟam, on the occasion when Akalaṅka-Nāḍāḷvāṉ captured Kollimalai. The three records of Śrīraṅgam copied during

the year would show that an assurance was given to this chief by three Kaikkōḷa-Mudalis of the locality to the effect that they will serve as his Vēḷaikkāṟas and lay down their lives along with him. It may, consequently, be surmised that Akaḷaṅka-Nāḍāḷvāṉ was a chieftain of some importance under Rājādhirājadēva and held charge of the tract round Śrīraṅgam. Another chieftain bearing the title Akaḷaṅka-Nāḍāḷvāṉ figures in an inscription (cir. A. D. 1225) of Māṟavarmaṉ Sundara-Pāṇḍya from Aḷagarkōyil; but, apparently, he must be a different person.

A record of Eṟamam in the Chirakkāl *tāluk* of Malabar mentions a king named Kaṇḍan Kārivarman *alias* Rāmakuṭa-Mūvar who was not known to us before. Another king of the line mentioned in an inscription at Rāmantalli in the same *tāluk* is Udayavarman *alias* Rāmakuṭa-Mūvar. The Chōḷa king Rājādhirāja I is stated in his inscriptions to have defeated Rāmakuṭa-Mūvar in battle. Therefore, the rulers of this part of the country must have been styled Rāmakuṭa-Mūvar, their proper names being Kaṇḍan Kārivarman, Udayavarman, etc. This would show that the term Mūvar occurring in the epithet Rāmakuṭa-Mūvar signifies "the chief or lord" of Rāmakuṭam and not "the three" in which sense it is usually taken. The Rāmantalli inscription is important in that it lends additional help in determining the real name of this tract as *Mūshaka*. This is a Sanskrit name and is rendered by the word *eli* (*i.e.*, rat) in Tamiḻ. Apparently, it was this Tamiḻ rendering that gave rise to the Elimalai or 'the Mt. d'Eli' of Marcopolo.[1]

An inscription of the reign of the Western Chāḷukya king Bhūlōkamalla, the successor of Vikramāditya VI which comes from the Palnāḍ *tāluk* is interesting for it speaks of the Nāga line of kings and the chief Bēta of the Ahihaya, (Haihaya) family whom it connects with the ancient town of Māhishmatī-pura in the Central Provinces. An inscription dated Śaka 1402 (A.D. 1480) which was found at Āḷappiṟaṇḍān in the Arantāṅgi *tāluk* supplies interesting information about the tenancy rights obtaining in this part of the country in the 15th century A.D.

This year's collection represents several inscriptions of the Vijayanagara dynasty which are mostly lying in the South Kanara district of the Madras Presidency. In date they range between the Śaka years 1282 and 1482. Their chief interest lies in the names of certain governors of Bārakūru with whom they acquaint us for the first time. These names are Bayirarasa, Ācharasa-Oḍeya, Kāmarasa-*Daṇṇāyaka* and Honneya Kaḷaṣarāya. An inscription of the reign of Mallikārjuna which is dated Śaka 1374 refers to the prosperous administration of the *Mahāpradhāna* Mūkha-*Daṇṇāyaka* from the capital town Vijayanagara. The two inscriptions at Handāḍi in the Uḍipi *tāluk*, both dated in Śaka 1464, refer themselves to the reign of Veṅkaṭādrirāya-*Mahārāya* and, in describing him as ruling from Vijayanagara, furnish a direct epigraphical evidence to the effect that Veṅkaṭādri, the son of Achyutarāya, actually ruled for a short time. Inscriptions of his successor Sadāśiva dated even in Śaka 1459, have

[1] See *J. R. A. S.*, 1922, p. 174.

already been found in large numbers. Two inscriptions from Baindūr in the Coondapoor *tāluk* both dated in Saka 1482 and in the reign of Sadāśivarāya mention a certain *Mahāmaṇḍalēśvarī* Channa-Bairādēvī-Ammā, the daughter of Bairādēvī-Ammā as ruling from her capital Saṅgītapura, which was otherwise known as Hāḍuvaḷḷi, and was the original home of the Sāḷuvas. From the seven inscriptions, copied at Haṭṭiyaṅgaḍi which in dates range between the Śaka years 1490 and 1512, we learn that the tract round this place was then under the rule of certain chiefs who were called Honneya-Kambaḷi-Oḍeya.

An epigraph lying in front of the Travellers' Bungalow at Perintalamanna in Malabar mentions the names of two Privates, James Hart and Thomas Blake, who fell bravely fighting some fanatic Moplahs. The record was set up by the Raja of Walluvanāḍ.

The two copper-plate inscriptions found during the year are dated in Śaka 1624 and 1725 respectively. One of them is written in Tamiḻ and belongs to the reign of Vijayaraghunātha-Sētupati. It registers certain gifts made by Muttu-Vayiravanātha-dēva who was the grandson of Vijayaraghunātha. The other is a Telugu record of the gift of certain tolls on articles of merchandise carried over the river Kṛishṇā at the Goṭṭimukkala ferry. These tolls, the record says, were levied to meet the expenses of the temple of Uttarēśvarasvāmin.

Indian Museum, Calcutta.

The only epigraphical acquisition made during the year for this museum as reported by the Superintendent of its Archæological Section, consists of the copper-plate inscription of king Dharmma Khēdi of the Eastern Kādamba dynasty which has already been published.[1]

Provincial Museum, Lucknow.

The Curator of the Lucknow Museum reports that three inscribed articles were acquired for the institution during the year. The earliest of these is an inscribed brick (8″×5″) from the ancient Ahichhatra (Rāmnagar), Aonla *tahsīl* in the Bareilly District of the United Provinces. The inscription incised on it is a short legend written in the Brāhmī alphabet of about the 1st century B.C. which seems to read *Gō(?)pālasa rājña Kō?.* Of the remaining two, one is a gun and another, a brass cannon, bearing inscriptions dated in the Saka year 1643 and the *Saṁvat* year 1931 respectively.

Muttra Museum.

Two very important epigraphical acquisitions are reported to have been made for the Muttra Museum of Archæology this year. Both were discovered by Rai Bahadur Pandit Radhakrishna, Vice-President of the Museum of Archæology of Muttra. The earlier of the two is engraved on a stone pillar and I am told refers itself to the reign of the Kushāṇa king Shāhi Huvishka and dated in the Kushāṇa year 28. The other is reported to be a record of the Gupta Emperor

[1] *Journal of the Andhra Historical Research Society*, Vol. III, pp. 171 ff.

Chandragupta II, the son and successor of Samudragupta the Great and dated the 5th day of the bright half of the first Āshāḍha in the Gupta year 61. So far, I have neither seen these inscriptions nor got their impressions. Consequently, I am not in a position to make a review of their contents.

Rajputana Museum, Ajmer.

The Superintendent of the Rājputāna Museum at Ajmēr secured copies of seventeen inscriptions for the Museum. According to the summary of their contents which he has sent to me, the earliest of these inscriptions is engraved on a stone slab built into a niche in the temple of Bhamaramātā standing two miles away from Chhōṭi Sādṛī in the Udaipur State. The preserved portion of it would show that a temple of Dēvī (Durgā) was built by Yaśagupta, son of Rājyavardhana and grandson of Dhanyasōma, a king of the Gaura-kshatriya family on the 10th day of the bright half of Māgha in the *Saṁvat* year 547 (=A.D. 491). It is a *praśasti* which was composed by Bhramarasōma, son of Mitrasōma and grandson of Jīvaddharaṇa and written by Aparājita who meditated on the feet of Rājaputra Gōbhaṭa. This Gaura family seems to have flourished about the 15th century (A.D.) as is evidenced by the Ekaliṅgaji temple inscription which is dated in *Saṁvat* 1545[1] (=A.D. 1488). The present record is interesting for it would show that the term Gōrā Bādal, which is usually taken to mean two warriors, Gōrā and Bādal who fought 'Alāuddīn on the side of Mēwār, only means Bādal of the Gōrā family. That Gōrā is an ordinary Prākrit form of the Sanskrit word *Gaura* does not require any explanation. Next comes the Vīrapurā copper-plate grant of *Mahārājādhirāja* Amṛitapāladēva which was issued on the 15th day of the bright half of Kārttika in *Saṁvat* 1242 (A.D. 1185). It records that when *Mahārājādhirāja Paramēśvara Paramabhaṭṭāraka* Bhīmadēva (II) *alias* Abhinavasiddharāja of the Chauḷukya family was ruling at Aṇahilapāṭaka, his subordinate chief Amṛitapāla, son of Vijayapāla *alias* Bhartṛipaṭṭa of the Guhila-datta family, who was the governor of Vaṭapadraka in the Vāgaḍa country, granted for his and his parents' welfare a well called Lasāḍiā and a land of two *halas* (ploughs) in the village of Gāta-uḍa in the province of Shaṭ(a)-pañchāśat to a Brāhmaṇa Madana of the Bhāradvāja-*gōtra* in the presence of several witnesses. The third inscription is a *praśasti* which is dated Thursday the 10th day of the dark half of the month of Vaiśākha in *Saṁvat* 1525 (A.D. 1468). The stone on which it is written is built into a wall of the Jaina temple at Āntṛi in the Dungarpur State. It belongs to the reign of king Gajapāla who defeated the army of a Gurjara king and was known as Gōpīnātha. According to this record Sōmadāsa was the son of Gajapāla. These rulers respectively had Sālhā and Sābha as their chief ministers. Sābha built a Jaina temple at Āntṛi in *Saṁvat* 1495 (A.D. 1438) and had two sons, named Mālhā and Sālhā by his wife called Karmādēvi. Sālhā erected a *maṇḍapa* and *dēvakulikās* in the temple which was built by his father at Āntṛi. The consecration ceremony of these two structures was performed by Sōmajayasūri on the date to which this inscription belongs. The *praśasti* was composed by Labdhisamudra and Vijayagaṇi but

[1] *Prakrit and Sanskrit Inscriptions of Kathyawar, etc.*, p. 121.

was written by Amaranandigaṇi, the pupil of Sōmajayasūri and engraved by the *sūtradhāra* Vāghā. Of the remaining 14 records three are copper-plate grants which, in dates, range between A.D. 1511 and A.D. 1760. The first records the grant of two villages which was made in *Saṁvat* 1568 by Mahārāṇā Sāṅgā, the well-known adversary of Bābar. The second registers the grant made by Mahārāṇā Saṁgrāmasiṁha II of Mewār on the 5th day of the bright half of the first Bhādrapada of *Saṁvat* 1787. The third is dated the 5th day of the bright half of Māgha in the *Saṁvat* year 1817 and is a record of the perpetual gift of the village called Ubarḍi to Bāraṭh Manōharadāsa by Mahārāwal Prithisiṁha of Bānswāra. The remaining inscriptions are late records connected with the Bānswāra State of Rājputāna. Only two of them may be given a passing notice. The Maugāmā Jaina temple inscription of the *Saṁvat* year 1571 (=A.D. 1514) belongs to the reign of Udayasiṁha of the Dungargarh State who was killed in the battle of Khānwā while fighting on the side of Mahārāṇā Sāṅgā against the Mughal Emperor Bābar. The pillar inscription in the temple of Nīlakaṇṭha Mahādēva in the Bānswāra State is a record of some repairs to a temple built by Lālabāī, the wife of Jagamalsiṁha who was the second son of Rāwal Udayasiṁha and the founder of the Bānswāra State.

Contributions by the Government Epigraphist and his staff.

During the year under report, I contributed the epigraphical resumé to the *Annual Report of the Archæological Survey of India* for the year 1928-29 and wrote an article on the Nālandā stone inscription of the time of Yaśōvarmmadēva for the *Epigraphia Indica.* I also prepared a chapter on art and an introduction for the Guide to Elephanta which I drafted last year at the request of Sir John Marshall. The revised typescript of the complete Guide was sent to the Officiating Director General of Archæology in India in the month of May 1929.

In addition to these works, I prepared a supplement to my Memoir on the Baghēla Dynasty of Rēwah and with the permission of the Government of India published it in the *Journal of the Bihar and Orissa Research Society,* Patna. I have also written a note on certain early Śvētāmbara manuscripts and, with the sanction of the Government communicated to me by the Officiating Director General of Archæology, have sent it on to the India Society, London, for publication in its journal entitled "Indian Art and Letters."

Mr. K. V. Subrahmanya Ayyar, Superintendent for Epigraphy, prepared two articles, one on three Tamil inscriptions from Lālguḍi and the other on the Tiruchchendūr inscription of Varaguṇa-Mahārāja, in the course of the year. Both of them will be published in the *Epigraphia Indica.* The former is already in print.

Mr. N. Lakshminarayana Rao, Kanarese Epigraphical Assistant in my office, has contributed an article on the Jūra Praśasti of Kṛishṇa III, a part of which has already been published. Mr. R. S. Panchamukhi, also, has written a paper on the Kōṭavumachgi inscription of the Chālukya king Vikramāditya V which is in the course of publication.

Tours of the Government Epigraphist.

In the course of one of my tours I visited Conjeeveram and Mahābalipuram and studied some of the Pallava inscriptions in connection with the identification of certain sculptures which appear to be the portraits of some Pallava chiefs. Without entering into details, I might make here a passing mention of the figure which is sculptured in the niche of the Dharmarāja-Ratha at Mahābalipuram and is represented by the accompanying photograph (Plate XXXIV, *d*). Above the head of this standing figure there is a label which reads *Śrī Mēghaḥ Trailōkyavarddhanaḥ Vidhiḥ.* This label, it appears to me, is connected with the sculpture carved below it. As the late Dr. Hultzsch has already remarked in his informative article on the Pallava inscriptions[1] of the Seven Pagodas, it contains two of the several epithets or *birudas* of the Pallava king whose actual name was probably Narasiṁha which is engraved on this Ratha not *once* but *twice.* On the strength of these *birudas*, I would infer that this sculpture is the portrait of Narasiṁhavarman I who was the son of Mahēndravarman I and a contemporary of the Western Chāḷukya king Pulakēśin II (A.D. 609-642). The result of my tour to Śittannavāśal has already been stated above.

MOSLEM EPIGRAPHY.

By Mr. G. Yazdani.

The work carried out during the year shows a rich harvest as regards both the number of inscriptions newly discovered and the historical facts gleaned thereby. The twelve inscriptions secured from the Raichur Fort contradict the accepted date (825 H.) of the assumption of the royal title by the rulers of Bījapūr, for until 943 H. they are repeatedly mentioned as only Khāns, vassals to the Bahmanī kings, whose names occur with full regal titles in these inscriptions. The absence of coins of the first four rulers of Bījapūr confirms the information contained in the newly discovered inscriptions, although Firishtah, and in his train all later writers, have stated that the 'Ādil Shāhīs assumed the regal title as early as 895 H. Firishtah's dates of the assumption of royal titles by the other dynasties of the Deccan are also erroneous, and his date of the Quṭb Shāhī dynasty was proved to be wrong by the discovery of an inscription at Golconda some sixteen years ago.[2]

At Bidar our investigations have resulted in the finding of twenty-six new inscriptions, in addition to those reported in the note for the previous year. They cover a period of nearly two hundred years in the history of Bidar (887-1088 H.) and besides giving the dates of the demise of several important saints and a calligraphist, they record the names of some gateways built for the protection of the City and the Fort of Bidar after its conquest by Aurangzeb. From an artistic point of view the inscription on the tomb of Ḥazarat Khalīlu'llāh is perhaps unique on account of the beauty and the vigour of its style, while the inscription on the mosque at Farḥ Bāgh illustrates the high watermark of the *Nastā'līq*

[1] *Ep. Ind.*, Vol. X, pp. 1 ff.

[2] Cf. *Epigraphia Indo-Moslemica*, 1913-14.

writing reached under the Mughals. The inscription on Hazrat Khalilu'llāh's tomb was designed by a Persian artist, named Mughīth of Shiraz. It is in the *Thulth* style of writing.

At Patancheru. in the suburbs of Hyderābād, a new inscription of Muhammad Qutb Shāh has been found, which, besides being a good example of the *Thulth* script of the Deccan of the Qutb Shāhī period, is important as fixing with precision the date of the dome on which it is set up. This inscription also gives the genealogy of some saints of the Deccan belonging to the Qādiriyya group of Dervishes.

An inscription of 'Alā'u-d-Dīn Khaljī has been found at a village called Nālatwārd in the Muddebihāl *taluka* of the Bījapūr district. It is dated 715 H. and, although written in a crude *Naskh*, its language and the epithets used for the King are the same as those used at Delhi in contemporary inscriptions. The record is also important as giving the extent of 'Alā 'u-d-Dīn's conquest of the Deccan, which is mentioned in contemporary history in the barest outline.

A survey of the inscriptions of India in relation to architecture is highly desirable, for Moslem writing, on account of its high artistic qualities, has always lent itself to decorative themes. The subject is extremely fascinating and has not hitherto been studied in India, but to carry out the work in a systematic way the services of a whole-time officer will be required

During the year under report a number of the *Epigraphia Indo-Moslemica* was published and another is passing through the press and will be issued shortly.

SECTION IV.—MUSEUMS.

INDIAN MUSEUM, CALCUTTA.

By Rai Bahadur Ramaprasad Chanda.

Acquisitions.

Antiquities other than coins added to the collections of the Archæological Section of the Indian Museum during 1929-30 number 415. This number includes 301 engraved gems from Persia and Mesopotamia lent by the Director General of Archæology in India for exhibition. Among the Indian antiquities acquired during the year, 17 pieces of Indo-Greek Gandhāra sculptures purchased from Colonel MacMahon by the Director General of Archæology in India and lent for exhibition deserve special notice. This group includes an image of Buddha (8121) seated in *dhyāna* (meditation) (20″ × 11″) of which the left hand and left leg are damaged (Plate XLII, *e*). It is a good specimen of the Gandhāra type and the face shows well the spirit of dispassionate meditation (*dhyāna* or *samādhi*) that characterises the Enlightened one.

Origin of the image of Buddha.

The origin of the image of Buddha has been the subject of keen controversy since the publication of M. Foucher's lecture, "Greek Origin of the image of Buddha"[1]. In this discussion two different elements appear to be confused. These are, (1) the Buddha type, (2) the Gandhāra type of figure sculpture. The latter certainly discloses Greek influence. When the Greek element is eliminated, there remains the basic Buddha type which corresponds to the type of the *Dhyāna-yogin*. The term *yogin* does not occur in the early Buddhist literature, the four Pāli Nikāyas,[2] but *jhāna* (*dhyāna*) does. The students of Buddhist iconography are familiar with *dhyāna-mudrā*. The pose is thus described in the *Samañña-phala-Sutta* and other ancient Pāli texts :—

> *nisīdati pallaṅkam ābhujitvā ujuṁ kāyaṁ paṇidhāya parimukhaṁ satiṁ upaṭṭhapetvā.*

pallaṅkam ābhujati means "to bend (the legs) in crosswise", "sitting cross-legged". The Sanskrit equivalent of *pallaṅka* is *paryaṅka* and the pose is called *paryaṅkāsana* : *ujuṁ kāyaṁ* means "erect body". In the *Bhagavadgītā*, VI, 13, the posture is described as *samaṁ kāyaśirogrīvaṁ*, "body, neck and head in a line". The last part of the sentence, *parimukhaṁ satiṁ upaṭṭhapetvā*, literally means, "setting up his memory in front (*i.e.* of the object of thought)".

[1] Lecture at the Musée Guimet (*Bibliothèque de Vulgarisation du Musée Guimet*. Vol. XXXVIII); Foucher, *The Beginnings of Buddhist Art and other Essays in Indian and Central-Asian Archæology* (English translation), Paris & London, 1917, pp. 111-137; A. K. Coomaraswamy, "The Origin of the Buddha Image", *The Art Bulletin*, Vol. IX, No. 4; Ludwig Bachhofer, *Early Indian Sculpture*, Paris, 1929, Vol. I, p. 112; Dr. Sten Konow in *Acta Orientalia*, Vol. VII, pp. 79-80.

[2] For references see *The Pali Text Society's Pali-English Dictionary*, article "yogin".

The physical concomitant of or aid to fixing the memory (mind) on the object of thought according to the stanza from the *Bhagavadgītā* quoted above is, "Fixing the eyes on the tip of the nose". This posture of the eyes is quite clear on the face of our image of Buddha and on two heads, one of Budhha (Plate XLII, *g*) and another of Bodhisattva (Plate XLII, *f*), belonging to the same collection. As a contrast, another head of the same collection, that of a layman with wide open eyes wherein the pupils are clearly marked, is reproduced in Plate XLII, *d*. In the Gandhāra Buddha we, therefore, recognise a *Dhyāna-yogin* with nose, hair and drapery fashioned in Greek style. In the standing images of Buddha and Bodhisattva of Gandhāra another Greek feature, the breaking of the frontal pose by throwing the weight of the body on one leg with the hip raised and the other leg flexed, is also noticeable. We cannot trace the pose of the *Dhyāna-yogin* anywhere outside India. In India outside Gandhāra the same pose is found in the image of seated Jina in an *āyāgapaṭa* (tablet of homage) from Mathura in the Lucknow Museum bearing a votive inscription in the Brāhmī script used in the inscriptions of the time of the Mahākshatrapa Śadāsa[1] which records its dedication by one Sihanādika (*Siṁhanādika*). No hair is marked on the head of this image. Absence of clearly marked hair is one important feature that distinguishes several images of Buddha and Bodhisattva of the Mathura school of the Kushan period and the Mankuwar image of seated Buddha of the Gupta period (A.D. 448-49) from the Gandhāra images. Another distinguishing character of the Mathura school of the Kushan period is the straight frontal pose of the standing images of Buddha and Bodhisattva. The inclined pose never found favour in Mathura and did not find its way to Eastern India till the second half of the fifth century A.D. The pre-Kushan image of seated Jina in Sihanādika's tablet and the peculiar features that distinguish the images of Buddha and Bodhisattva of the early school of Mathura from those produced by the contemporaneous Indo-Greek school of Gandhāra indicate that the Mathura type of *Dhyāna-yogin* is not based on the Gandhāra type but is an independent creation. There are evidences that carry the existence of the type in the Indus valley as far back as the Chalcolithic period (about 3,000 B.C.). Sir John Marshall reports :—

"On a tablet of blue faience which has just come to light is depicted a figure seated cross-legged (like Buddha on a throne) with a kneeling worshipper to right and left and behind the worshipper a snake (*nāga*), while at the back is a legend in the pictographic script of the period."[2]

Here we have a figure seated in the posture of the *Dhyāna-yogin*. A group of mutilated stone statues found at Mohenjo-daro that show half-shut eyes distinctly fixed on the tip of the nose carries us a step further.[3] An interval of 3,000 years separates the statues of Mohenjo-daro from the seated Jina in *Sihanādika's* tablet. But it is more reasonable to assume a connection between the

[1] Coomaraswamy, *The Origin of the Buddha Image*, p. 24, fig. 42; V. A. Smith, *The Jaina Stupa and other Antiquities from Mathura*, Allahabad, 1901, p. 14, Plate VII; *Epigraphia Indica*, Vol. II, Plate I, *a* (central figure only).

[2] *A. S. I.*, 1924-25, p. 61.

[3] *Memoirs of A. S. I.*, No. 41, Plate I (*b*); *A. S. I.*, 1926-27, Plate XIX.

pre-historic type of *Dhyāna-yogin* and the Gandhāra and Mathura types than to trace the origin of a peculiarly Indian type to a country in Europe where it was never known. The reason why the assumption of non-Indian origin of this type was thought necessary is the absence of the figure of Gautama Buddha or of any of his predecessors in the earliest Buddhist monuments of Central and Eastern India and the absence of the figure of any of the Jinas in the friezes of the Jaina cave temples of Udayagiri and Khandagiri in Orissa. It was naturally assumed that the barriers that stood in the way of the artists of Central and Eastern India in figuring the *Dhyāna-yogin* (Buddha or Jina) must have once extended as far as the north-western frontier of India and that their sudden removal in Gandhāra was due to outside impulse. That an insurmountable barrier against making the images of Buddha existed in such centres as Sanchi, Sarnath and Sravasti down to the Kushan period is indicated by the importation of images from Mathura. How that barrier was gradually overcome is discussed in the note on "Mediæval Indian Sculpture" below. The seated Jina in Sihanādika's tablet and the images of Buddha in the early style of Mathura disclose no such efforts at overcoming pre-existing obstacles. Images of the *Dhyāna-yogin* type seem to appear at Mathura and Gandhāra spontaneously with certain Greek features superadded to it in the latter area. So the barrier that stood in the way of the artists of the East cannot be presumed to have existed at Mathura and in Gandhāra.

The admission of this proposition involves the recognition of cultural difference between Western Āryāvarta including Mathura on the one hand and Āryāvarta to the east of this region on the other on one fundamental point. This point is the existence of an ancient cult of the image of *Dhyāna-yogin* in the West and its absence in the East. Such a view appears to run counter to the early Buddhist and Jain traditions that ascribe the birth of Gautama Buddha, Mahāvīra Jina and their immediate predecessors, Kāśyapa Buddha and Pārśvanātha Jina, to Eastern India. But though these teachers practised *dhyāna-yoga* themselves and taught their followers to practise it to gain supreme knowledge leading to final emancipation, the worship of the image of Dhyāna-yogin (a Buddha or an Arhat) does not find place in the teachings of Buddha as known from the earliest extant texts. Not only there is no provision for the worship of the image of Buddha in early Buddhist texts, in the Pāli Vinaya, *Chullavagga* (vi, 3, 2), Buddha even prohibits the painting of figures of men and women. The story goes: once upon a time the Chhavaggiya Bhikkhus, a group of followers who were ever ready to go astray, painted figures of men and women in their Vihāras. The people complained saying, "Like those who still enjoy the pleasure of the world". When this matter was brought to the notice of Gautama Buddha he said: –

"You are not, O Bhikkhus, to have imaginative drawings painted—figures of men and figures of women. Whosoever does so shall be guilty of a *dukkaṭa*. I allow you, O Bhikkhus, representations of wreaths and creepers and bone hooks and cupboards."[1]

[1] *Sacred Books of the East*, Vol. XX, pp. 172-173.

Though the Devatās, Yakshas, Nāgas and other superhuman beings who peopled the pantheon of the popular religion of Central and Eastern India figure prominently on the ancient Buddhist monuments, the Dhyāna-yogin finds no place among them evidently because he was not an object of popular worship in those parts of Āryāvarta. The rise of Mahāyāna Buddhism and the cult of Bhakti or devotion to a personal being as a means of attaining salvation must have prepared the ground for the introduction of the worship of the image of Buddha from the West.

Gupta and Post-Gupta sculptures.

The only specimen of Gupta Art acquired during the year is a fragment of grey sandstone with a bust (8521) purchased at Benares (Plate XLII, *a*). The flowers on the tree above the halo indicate that it is a *Kadamba* tree under which, according to legend, the boy Kṛishṇa used to stand and play on his flute while watching the cattle. To the left of the head there are the remnants of what look like two wooden posts or sticks, one of which is smooth and the other has knots on it. One is tempted to identify the smooth object as the flute and the knotted stick as the goad used by Gopāla-Kṛishṇa for urging cattle.

To the early post-Gupta period should be assigned another image (8208) of grey sandstone acquired at Benares. The crescent on the matted hair, the trident in the right upper hand and the bull indicate that it is an image of Śiva. Its companion image of Brahmā, also acquired at Benares a year before, has been noticed in the Annual Report for 1928-29 (p. 130 ff; Plate LIII, *b*). Babu Ram Charan Chatterjee has presented through the Collector of Bakarganj (Barisal) a small seated image (8201) of Avalokiteśvara of black shale. This image is from Khaliśākoṭā, P. S. Bānāripārā, Dist. Bakarganj (Barisal), in Eastern Bengal. On the back of this image is inscribed in Nāgarī characters of the tenth or eleventh century A.D. the Buddhist creed and the name of the donor thus :—

deva(ya)-dharmm=oyaṁ Vig[ra]ha(sya)

"The pious gift of Vigraha".

The Government of Bengal have enriched the collection of bronzes in the Indian Museum by presenting 40 Buddhist images, one miniature votive *stupa*, one miniature votive temple and 7 other fragments belonging to the Treasure-Trove collection from Jhewari in the Chittagong District in Bengal. This collection has already been briefly noticed by the Superintendent, Archæological Survey, Eastern Circle, in the Annual Report for the year 1927-28, p. 184 and the votive inscriptions on some of the images have been referred to in the Annual Report for 1928-29 (p. 125). Photographs of two of the inscribed images of Buddha in earth-touching attitude have already been published in the [illegible] mentioned Report (Plate LVII, Figs. *b*, *d*). Photographs of t[illegible] [illegible]entral figure only). [illegible]cribed images are reproduced on Plate XLII, *b-c*, and the ink[illegible]

four of the better preserved inscriptions on Plate XLIII, *a*. These inscriptions may be read thus :—

(*a*) *Oṁ deyadharm=oyaṁ vandya-sthabh(v)ira śubhadattasya mātāpitṛi-purvaṁgamaṁ kṛitvā sakala-sattvarāśer=anutta(ra) jñānāvāptaya iti* ||

" Om. This is the pious gift of the venerable senior monk Śubhadatta for the attainment of the highest knowledge of all beings headed by his mother and father."

(*b*) *deyadharm=oyaṁ pravara-mahāyāna-yāyino vandya-stha[vira]-Kumārabhadrasya | yad=atra puṇyaṁ tad=bhavatu..........*

" This is the pious gift of the follower of the most excellent Mahāyāna, the venerable senior monk Kumārabhadra. The merit of this (gift) be ...."

(*c*) *Oṁ deyadharm=oyaṁ Śākyabhikshoḥ stha[vira]-Guṇadattasya.*

" Om. This is the pious gift of the senior Śākya monk Guṇadatta."

(*d*) *Śubhadatta Mahāse[kha]rī.*

All these inscriptions are engraved in a form of alphabet used in North Indian inscriptions from the seventh to the ninth century A.D. that was once known as *kuṭila* and is designated acute-angle type by *Bühler*.[1] With one solitary exception (Plate XLIII, *f*) all these images show plain drapery like the images of the Gupta school of Eastern India without the folds marked on them, but unlike standing Gupta images produced in the same area most of the standing images are in frontal pose (Plate XLIII, *b*). They may be attributed to the eighth century A.D. when there was a revival of Mahāyāna Buddhism in Bihar and Bengal under the early Pāla kings and in Orissa under the Kara kings. The smaller images are cast solid. but the big images are cast hollow and the empty space within is filled with a kind of cement and then covered by a thin sheet at the bottom. Though well-finished, these bronzes are the works of skilful craftsmen but of little artistic value.

From the opposite frontier of Bengal (Manbhum district, now in Bihar and Orissa) came two stone images, one (8202) of the Sun-god (Plate XLIII, *c*) and the other of the first Jina Ṛishabhanātha (8203). Both these images we owe to the generosity of Mr. W. J. Burnand, Manager of the Midnapur Zemindary Co., Ltd., Barabhum Concern, Barabhum, Manbhum. The elaborate decorations on the back slab of the image of the Sun-god indicate that it is the work of the later Pāla period (eleventh or twelfth century A.D.).

To a couple of centuries later (Thirteenth or fourteenth century A.D.) should be assigned a seated image (8514) of Jina Ṛishabhanātha of black basalt from a village in the neighbourhood of Kosam in the Allahabad district (U. P.), presented by Mahārājakumār Samarendra Chandra Deva Burman, Bara Thakur Bahadur of the Tipperah State in Bengal. One decorative element, the addition of two elephants pouring water on the figure of the Jina with jars held in their trunks on the top of the back slab, indicates its late date. The modelling is wanting in vitality and the face of the Jina lacks expression. This and about a dozen other late (post-mediæval) sculptures acquired during the year

[1] Bühler and Fleet, *Indian Palæography* (*The Indian Antiquary*, Vol. XXXIII, 1904, *Appendix* p. 49.

enable us to follow the course of degradation and decadence of plastic art in Northern India.

Engraved gems from Persia and Mesopotamia.

Sir John Marshall purchased on behalf of the Government of India and lent to the Archæological Section of the Indian Museum, for exhibition, 301 engraved gems collected in Persia and Mesopotamia. To distinguish this collection from the Pearse collection of engraved gems exhibited in the Indian Museum (A. S. I., 1928-29, pp. 131 ff) it may be designated the "Marshall Collection". This Marshall collection includes 5 Assyrian cylinder seals and 4 Muhammadan seals bearing Arabic inscriptions. The remaining 292 are Persian seals of the Sassanian period. They are either conical or hemispherical in shape and pierced to serve as pendant beads. As works of art, these Sassanian gems are of little value. The animal figures lack vitality and finish, and the execution of the portrait busts is careless and crude. Among these Sassanian seals 41 bear Pehlevi inscriptions. Maulavi Shamsuddin Ahmad, Assistant Curator of the Archæological Section, who is engaged in deciphering these inscriptions, has prepared the following list of the 26 seals reproduced on Plate XLV, *a* :—

(1) Bust of King in profile to right, tiara, plaited beard and hair flowing behind in tresses; crescent in the field. Inscription, *bahuran* '(seal of) Vahran.' Chalcedony.

(2) Bearded bust of king facing, with hair rolled up over the head forming knobs on either ear; draped. Inscription, *nuraz shahpuhri min yazdan*, 'the fire of Shapur from God'. Onyx.

(3) Humped bull standing to right; star in the field. Inscription, *zuzan bari batu.* Chalcedony.

(4) Horseman attacking the enemy. Inscription, *apest*, 'confidence'. Chalcedony.

(5) Reindeer recumbent, looking back. Inscription, *rastih*, 'justice'. Agate-Jasper.

(6) Assyrian bull with human head standing to right. Inscription, *apzut*, 'prosperity'. Chalcedony.

(7) Bust of king to right wearing a crown; plaited beard and hair falling at the back of the neck, ear-ring. Inscription, *apstanit*, 'confidence'. Hæmatite.

(8) Reindeer standing to right. Inscription, *raches ua rasti.* Chalcedony.

(9) Lion attacking a bull. Inscription, *atur*, 'fire'. Chalcedony.

(10) Humped bull standing to right under a tree. Inscription, *apstani*, 'confidence'. Agate-Jasper.

(11) Elephant advancing to right. Inscription, *piroch*, 'victory'. Chalcedony.

(12) Bust of king in profile to right, crowned, plaited beard and hair falling on the back of neck; drapery set with three stars. Inscription, *rasti*, 'justice'. Chalcedony.

(13) Humped bull crouching to right. Inscription, *aturi rasti*, 'fire of justice'. Chalcedony.

(14) Symbol. Inscription, *nuraz apstan uar yazdan*, 'fire of confidence in God'. Chalcedony.

(15) Lion walking to right. Inscription, *rast shahpuhri*, 'just Shahpur'. Chalcedony.

(16) Lion couchant to right: star below fore-legs. Inscription, *atur dat.* Chalcedony.

(17) Symbol. Inscription, *atur yazdan*, 'fire of God'. Chalcedony.

(18) Winged griffin running to right; a tree behind. Inscription, *nuraz piroz*, 'fire of victory'. Chrysoprase.

(19) Bust in profile to right, diademed, short beard, drapery. Inscription, *aps(tan war) yazdan*, 'confidence in God'. Carnelian.

(20) Bust in profile to right, diademed, short beard, drapery. Inscription, *atur piroz*, 'fire of victory'. Agate-Jasper.

(21) Assyrian winged bull with human head, standing to right, diademed. Inscription. *rasti*, 'justice', Chalcedony.

(22) Assyrian winged bull with human head, standing to right, diademed. Inscription, *apstan*, 'confidence'. Hæmatite.

(23) Symbol. Inscription, *apstan*, 'confidence'. Carnelian.

(24) Humped bull couchant to right. Inscription, *apstan war yazdan*, 'confidence in God'. Chalcedony.

(25) Sassanian royal insignia(?) enclosed by a semi-circle above. Inscription, *rasti*, 'justice'. Carnelian.

(26) Sassanian royal insignia(?); star in the field. Inscription, *marmadu*. Chalcedony.

Arabic inscription of the time of Sultan Alauddin Hussain Shah.

Rai Bahadur Mrityunjoy Roy Chowdhury, Zemindar of Sadyapuskarni, Rungpur District, Bengal, has presented a new Arabic inscription on a black basalt slab (16″ × 7¾″) found at Kantaduar in the Rungpur District, recording the erection of a mosque by one Khān A'ẓam in the reign of Sulṭān 'Alāuddīn Ḥussain Shāh of Gaur. The inscription has been thus deciphered and translated by Maulavi Shamsuddin Ahmad, Assistant Curator:—

الباني هذا المسجد فی عهد سلطان العادل و الباذل سید السادات منبع السعادات - رحیم
المسلمین و المسلمات (معلی کلمات الحق - قاطع الخشین (؟) و المتمردین - مانح الخلق - سیف (؟)
کامرو و کامته - بعون الله الحنان و المنان - غوث الا سلام و المسلمین علاؤ لدنیا و الدین ابو المظفر حسین
شاه - خلد الله ملکه و سلطانه - خان اعظم فاتح

"The mosque was built by Khān-i-A'ẓam, in the reign of the just and benevolent Sulṭān, the Sayyid of Sayyids, the source of auspiciousness, compassionate to Muslims (both) men and women, the propagator of the mission (words) of God, the subduer of the obstinate and the stubborn, the liberal on men, sword .... the conquerror of Kamru (Kamrup) and Kamta with the help of God, the most Compassionate and Propitious, the refuge of Islām and Mussalmāns, 'Alā-uddunyā waddīn Abul Muẓaffar Ḥusain Shāh, may God perpetuate his kingdom and sovereignty."

Bilingual coin of Sultan Mahmud of Ghazni.

Among the coins added to the cabinet of the Indian Museum during the year, of which a list is included in Appendix B, a bilingual (Arabic-Sanskrit) silver coin (dirham) of the famous Sulṭān Maḥmūd of Ghaznī presented by Mr. James Laing of Bangalore, through Pandit B. B. Bidyabinod, deserves special notice. Ten coins of this type in the British Museum are described by Thomas and Lane-Poole.[1] All these were issued from the mint town Maḥmūdpur; five (505-509) are dated A.H. 418 (A.D. 1027) and the other five (510-514) dated A.H. 419 (A.D. 1028). Cunningham describes one out of four coins of this type in his possession,[2] which is also issued from Maḥmūdpur and dated A. H. 418

[1] Thomas, *Chronicles of the Pathan Kings of Delhi*, London, 1871, p. 48; Stanley Lane-Poole, *Catalogue of Oriental Coins in the British Museum*, Vol. II, London, 1876, pp. 149-151, Plate VI, Figs. 505-514.

[2] Cunningham, *Coins of Mediæval India from the Seventh Century down to the Muhammadan Conquests*, London, 1894, pp. 65-66, Plate VII, Fig. 21.

(A.D. 1027). On the reverse area of our coin occurs this legend in ancient Nāgarī characters :—

avyaktam=eka[ṁ] Muhammada (a)vatāra nṛipati Mahamuda

"The unmanifested one is the only one (God). Muhammad is the incarnation. King Mahmūd".

Rev. margin—*(avyaktīya) nāme ayaṁ ṭaṁkaṁ ha]ta[mahamudapure saṁvati* 418]

"In the name of the unmanifested One, this coin has been struck at Mahmudpur in the year 418."

Maḥmūd's father Subuktigīn began war with the Hindu Shāhi Jaipal of Udabhāṇḍapura, who ruled over Eastern Afghanistan and the Punjab. Maḥmūd continued the war not only with Jaipal but with three succeeding generations of the Hindu Shāhis, Ānandapāla, Trilochanapāla and Bhīmapāla. According to Alberuni Trilochanapāla was killed in A.H. 412 (A.D. 1021), and his son Bhīmapāla five years later (A.D. 1026).[1] The defeat and death of Bhīmapāla, the last of the Shāhis, resulted in the annexation of the Punjab to the kingdom of Ghazna. It was to mark this event that the bilingual coin must have been issued in 1027 A.D. Cunningham thinks that the name of the mint town Maḥmūdpur appears in an incorrect form in Alberuni's "Mandahukur, the capital of Lauhawur (Lahore) east of the river Irawa (Irāvatī or Ravi.)"[2]

The translation of the *Kalima* "word of confession", in the Sanskrit legend of this coin calls for a few remarks. It discloses a knowledge of Hindu philosophy which one at least of Sulṭān Maḥmūd's Musalmān contemporaries, Alberuni, who followed him to India, possessed. But the rendering of *Allāh* by *avyaktam* (neuter) seems to me to indicate that it is due to some other scholar than Alberuni. Alberuni in the concluding portion of Chapter II of his work entitled "On the belief of the Hindus in God" says, "This is what educated people believe about God. They call him *īśvara, i.e.*, self-sufficing, beneficent, who gives without receiving".[3] In his summary of the Sāṅkhya system of philosophy in Chapter III, Alberuni uses *avyakta* in its original Sanskrit form and correctly defines it as a shapeless thing comprising the three *guṇas* or powers potentially. Though *avyakta* is used by the Vedantists in the sense of Brahman (neuter), Alberuni knew Sāṅkhya too well to use as the synonym of *Allāh* a term that might be misleading to many. The rendering of *rusūl-Allāh* by *avatāra* must sound strange to those who are familiar with the meaning of the latter term. But Alberuni also translates *avatāra* by *rasūl*, 'messenger,' and calls Krishṇa-Vāsudeva a messenger of God.[4]

TAXILA MUSEUM.

The sale-proceeds of admission tickets to the Museum amounted to Rs. 622-4 and the sale-proceeds of photographs to Rs. 93-10 both of which sums were duly deposited in the Government treasury.

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[1] Sachau, *Alberuni's India*, London, 1910, Vol. II, p. 13.
[2] Cunningham, *op. cit.*, p. 66; Sachau, I, p. 206.
[3] Sachau, I, p. 31.
[4] Sachau, I, p. 401.

The following antiquities unearthed by Sir John Marshall in the course of his excavations at this site were added to the Museum collection :—

1. Metal antiquities	493	5. Bone and shell objects	246
2. Terracotta and pottery	983	6. Glass and miscellaneous.	143
3. Stone antiquities	98	7. Copper coins	454
4. Beads and gems	283	8. Silver coins	12

Descriptions and illustrations of the more important of these objects will be found in Sir John Marshall's account of his Excavations at pp. 55—97 *supra.*

One new wall-case for photographs was installed in the library room and a teak-wood pedestal for a stucco image and 16 tripod stands of iron for large earthen jars in the public gallery. A balance for weighing coins, etc., was also purchased for use in the Museum.

The temporary marksman appointed in April, 1929, completed the general titling of all the free-standing show cases, pedestals and wall cases. The new titles are in gold leaf with black shading and contribute greatly to the appearance of the exhibition cases.

Sketches of typical pottery were prepared which will be utilised in Sir John Marshall's forthcoming book on Taxila. New photographs were also mounted in albums duly titled and referenced.

DELHI FORT MUSEUM.

By Khan Bahadur Moulvi Zafar Hasan.

The Museum continued to maintain its usual popularity, and attracted a large number of visitors both foreign and Indian, including students of Art and History, who greatly appreciated its collections particularly the paintings, the *farmāns* and the specimens of calligraphy. Several photographs of the paintings were supplied to various people, and the continual demand for them indicates the esteem in which they are held by cultured public. The only addition made to these collections during the year consisted of 128 coins (3 gold, 100 silver and 25 copper). Out of them 3 gold mohurs, 5 silver rupees and 7 copper pice were received on loan from the Director General of Archæology, while the remaining 113 coins were presented as Treasure Trove finds by various Governments.

SARNATH MUSEUM.

By Rai Bahadur Ramaprasad Chanda.

Re-arrangement.

The re-arrangement of specimens in the Sarnath Museum of Archæology in chronological order was first proposed by Sir John Marshall in 1927. The work was started in December, 1929 under the direction of Mr. Hargreaves, Officiating Director General of Archæology in India, and finished by the end of March.

In carrying out the re-arrangement of this huge collection of sculptures and carved architectural pieces representing the different phases of the history of Indian art for about 1,500 years, from the middle of the third century B.C. to the end of the twelfth century A.D., not only was the order of chronology followed, as far as possible under the existing state of knowledge, but two other principles were also kept in view:—

1. Relieving the congestion of specimens in the galleries by transferring duplicates and inferior specimens to a separate hall to serve as a reserve collection for researchers and students of the history of art and iconography.

2. Displaying in the public galleries the most attractive specimens that may stimulate the artistic sentiment and elevate the taste of the visitors.

The magnificent lion capital of the inscribed column of Asoka retains its old place of honour in the centre of the Central Hall of the Museum. The pedestal has, however, been remodelled and its height increased. The position of the capital has only been slightly altered by turning the bull on the abacus towards the west[1]. Other Mauryan fragments including the portrait heads and Mauryan and Śuṅga terracotta and pottery specimens have been displayed in a wall case placed in the middle of the northern wall of the hall. Carved rail pillars, cross-bars, copings and capitals of the Śuṅga period recovered at Sarnath, though limited in number, include some of the finest specimens of the decorative art of that period. These are exhibited in the north-west section of the Central Hall. Here rails have been reconstructed with pillars, copings and cross-bars that fit together. The other fragments have been fixed on pedestals along available portions of the walls. Among these is included the statue in the round (2′ 11″ × 1′ 11½″) of a headless and footless *kīchaka* (Catalogue No. D*h* 5) or Atlantis. The girdle round its waist is tied in front in the same fashion as the girdle of the Parkham statue in the Mathura Museum, and the armlet on its left forearm resembles the armlet worn by the figures on the pillars of the ground rail of the *stupa* of Bharhut in the Indian Museum. The image is therefore assignable to the Śuṅga period. The colossal Bodhisattva image dedicated by Friar Bala in the 3rd year of Kanishka retains its old position in the centre of the northern half of the central hall and other specimens assignable to the Kushan period are exhibited in the north-eastern section of it. The best preserved images of Buddha and of the Mahāyāna deities of the Gupta period are exhibited along the walls of the southern half of the hall. (Plate XLIII, *c*.) It may be stated without exaggeration that within this central hall of the Sarnath Museum of Archæology are housed some of the most elect products of the Maurya, Śuṅga and Gupta schools of art that flourished in Eastern India in succession.

In the Southern Gallery adjoining the central hall are exhibited on benches along the walls and in show cases, other antiquities of the Gupta period including steles on which are carved scenes illustrating the chief miracles of Gautama Buddha's life. In the verandah in front of this gallery a group of carved architectural pieces including some of the finest specimens of Gupta decorative sculpture are displayed. Above the entrance door of the southern gallery from this

[1] *Vide* D. R. Sahni, *Guide to the Buddhist Ruins of Sarnath*, p. 40.

verandah is put up the magnificent door lintel with scenes from the Kshāntivādi Jātaka carved on it.[1]

Against the eastern wall of the hall in the southern wing of the Museum building adjoining the southern gallery is fixed the colossal image of Gopāla-Krishṇa holding up mount Govardhana (Plate XLIV, *a*) assignable to the Gupta period. Though this magnificent image comes from a mound in the Benares city, we have given it a prominent place in the Sarnath Museum because it is a typical Brahmanic sculpture produced by the same school of art as produced the Buddhist sculptures recovered from the ruins of Sarnath. Post-Gupta and later mediæval sculptures and other antiquities are exhibited in this hall and the unfinished colossal image of Śiva[2] piercing the demon Andhaka with his trident has been placed against its western wall facing Krishṇa Govardhandhārī on the wall opposite. Duplicates and ill-preserved and inferior specimens have been deposited in the hall of the northern wing of the Museum building.

NALANDA MUSEUM.

By Mr. M. H. Kuraishi.

Some of the additions made during the year under report are noted below :—

Of the bronze images the following six deserve special mention :—

1. A gilt image of Buddha (ht. 12″ including the pedestal and the large oval halo behind) in *bhūmisparśamudrā* and seated on a lotus throne under the Bodhi tree (Plate XXXIII, *b*).
2. A smaller gilt figure of Buddha in the same attitude (ht. 7¾″ including the spike for the missing umbrella) and showing a large oval halo behind (Plate XXXIII, *c*).
3. An image of Buddha (9″ high), seated cross-legged on a double lotus throne and shaded by a triple umbrella, preaching the First Sermon at Sarnath as indicated by the Wheel of the Law between a pair of gazelles on the pedestal.
4. A gilt figure of Tārā (ht. 19¾″) wearing ornaments, *sāri* and a scarf and standing on a lotus cushion. The goddess holds a lotus stalk in her left hand, the right being held in *varadamudrā* pose (Plate XXXIV, *b*).
5. A gilt figure of Avalokiteśvara (20½″ high) standing on a lotus cushion and showing a dhyāni-Buddha in *bhūmisparśamudrā* in the head-dress (Plate XXXIV, *a*).
6. A gilt figure of Bodhisattva possibly Padmapāṇi in *abhayamudrā* pose and seated on a lotus throne supported by lions. It wears a crown on its head showing a dhyāni-Buddha and measures 12¼″ high (Plate XXXIII, *a*).

The gold used in gilding the standing images of Avalokiteśvara and Tārā is purer than that used on the others. Besides these figures there are a beautiful pedestal (8″ long) bearing at the back a Nāgarī inscription of three lines and a gilt waist-

[1] Daya Ram Sahni, *Catalogue of the Museum of Archæology at Sarnath*, Calcutta, 1914. Plates XXIII (*a*)—XXIX.
[2] *Ibid.* Plate XVIII.

band, which is 13″ long and decorated with scroll and chain design. All these bronzes were recovered from a single room in Monastery No. 8 and they all date from the Pāla period.

From the same monastery was recovered a beautiful stone figure of Avalokiteśvara in full relief (Plate XXXIV, c). The figure is broken across the waist and ankles, but is otherwise complete. It is 3′ 9″ high.

A quantity of iron nails and straps, an iron pestle and mortar and a fragmentary terracotta plaque showing a figure of Buddha in the centre with 2 lines of inscription below were amongst the other finds from Monastery 8.

The cutting at the east end of the new approach road to the site yielded 2 sickles, 1 kudāli and 1 axe-head, all of iron; rude stone figures of Tārā and Mahishāsuramardinī, a head of a Boddhisattva figure, and a hone for sharpening implements.

Of the various bronze images recovered previously from Monastery Site No. 1, but cleaned and treated by the Archæological Chemist in India during the year under review, two figures deserve special mention. The one represents a beautiful gilt image of Buddha (height 9½″, 16′-9″ b.s. M. S. No. 1. Reg. No. 556) seated in Bhūmisparśamudrā on a lotus throne (Plate XXXIII, c). The other image is that of Bodhisattva Vajrapāṇi (height 6⅛″, 13′-9″ b.s. M. S. No. 1 Reg. No. 955) seated cross-legged on a double-lotus pedestal (Viśvapadmāsana)—his left hand resting on the left knee holds a Vajra or thunderbolt, while his right hand holds a *Chāmara* or fly-whisk. The waist-band, two pairs of arm and wristlets, necklace, two different types of ear ornaments, three-spiked crown and the halo behind his head are prominently depicted on this deity which was introduced into the Buddhist Pantheon when Tantrism grew more popular amongst the Buddhists (Plate XXXIII, d).

LAHORE FORT MUSEUM.

By Mr. J. F. Blakiston.

During the year the Bari Khwabgah has been equipped with two more wall show-cases, two table show-cases and two glazed teak-wood doors at a cost of Rs. 2,476. The collection of arms and armour which had been housed for a number of years in a very cramped and inappropriate building in the Shish Mahal was transferred to the Bari Khwabgah just after the close of the year and arranged on the walls and in the show-cases. Certain other exhibits have been added to the museum such as glazed tiles found in the Fort in the course of excavations and a few engravings of local celebrities and views. The Kabul cannon and camel guns have also been removed from the Shish Mahal and been placed in the verandah of the Museum.

MOHENJO-DARO MUSEUM.

By Mr. E. J. H. Mackay.

The museum at Mohenjo-daro has been well patronised as usual, especially by the poorer classes. Two new teak-wood cases have been acquired, fitted

with drawers to hold antiquities for which room could not otherwise have been found. It is probable that in 1930-31 the collection at present on view will be dispersed amongst the various museums of India and replaced by more recent and unpublished finds. This is very necessary because the museum is badly overcrowded ; moreover, a periodical change is desirable. The temporary clearing of the cases will enable us to repair and thoroughly clean out the rooms which badly need it owing to the lower parts of the walls being attacked by salt.

MUSEUMS IN BURMA.

By Mons. Charles Duroiselle.

The only acquisitions made during the year 1929-30 for the archæological museums in Burma were two gold images of Buddha. These were acquired by the Government of Burma under the Treasure Trove Act, and are at present in the Museum, Pagan. Other objects added to the lists of exhibits in that Museum and in the Museum at Hmawza (Old Prome) consist of images of Buddha, terracotta votive tablets, inscriptions, etc., that were discovered in the course of excavations conducted during the year under report. Some inscribed stones were collected at Halin, but for want of a proper shed they have had to be deposited for the present in the Public Works Department Bungalow there.

CENTRAL ASIAN ANTIQUITIES MUSEUM, NEW DELHI.

By Mr. Q. M. Moneer.

After the retirement of Mr. F. H. Andrews on 20th March, 1929, Mr. Q. M. Moneer took over charge as Curator and remained in that post throughout the year under report.

In the main museum building on the King Edward Road, New Delhi, the galleries of Mural fresco paintings which constitute the outstanding asset of this Museum, had been organised in all technical details by Mr. Andrews before he handed over charge. As Mr. Andrews had had no time to provide descriptive labels to the frescoes, typewritten labels were soon supplied, and these galleries thrown open to public view at the end of April, 1929. These paper labels will gradually be replaced by painted wooden tablets similar to those in the Indian Museum, Calcutta.

During the year under review 13 boxes containing Sir Aurel Stein's prehistoric ceramic finds recovered from Baluchistan and the adjacent tracts were emptied of their contents and arranged alphabetically according to their find-spots in separate trays.

The accommodation allotted to this Museum in the upper storey of the Imperial Records Buildings comprises four rooms. The two rooms in the middle are smaller than those at the ends, and as they are also ill ventilated and fragmented into several compartments, they have been fitted up with a series of open wooden shelves for the safe storage of the major portion of the Museum collections which for lack of accommodation cannot at present be exhibited.

The larger rooms, though not ideally planned for galleries of a Museum, have been adapted as exhibition rooms by means of inexpensive contrivances so as to show to the best advantage the antiquities exhibited in them. Twenty-six show-cases of different standard specifications were provided last year and these include six double-faced glazed screens each 8′×8′ with an equal depth of 3″ on each face, six free standing cases each 8′×8′×4′-2″ glazed on all sides except at the base, six table cases with glazed slanting tops, measuring 8′×4′×3′-9″ each and eight wall cases glazed on sides and front each measuring 8′×8′×1′-9″.

The room at the north end is devoted to the display of select types of Central Asian silk paintings and to the exhibition of a range of prehistoric pottery specimens from the border regions of India. The smaller specimens of painted votive banners of silk and linen have been arranged in the double-faced screens and the ceramic objects in the free standing cases (Plate XLVIII, (4)).

All the eight wall cases and the six table cases have been installed in the fourth room at the southern extremity and reserved for the display of typical examples of minor miscellaneous objects mainly of Central Asian provenance. The wall-cases contain objects in stucco, stone, terracotta, metal, glass, shell, ivory, wood, etc., and the table show cases in the centre of the room a number of Central Asian textiles, paper drawings and sketches, woodcut prints and coloured paintings (Plate XLVIII, (3)). In addition to the fourteen cases mentioned above, seven more cases of smaller size and different types were made for this gallery, to accommodate larger objects, *e.g.*, painted clay models of animals from the VII century cemetery at Astana (Plate XLVIII, (3)), a series of III century carved beams and brackets from niya (Plate XLVIII, (3)), a colossal Buddha head of unfired clay from an unknown spot in the Khotan region and large fragments of painted clay drapery of life size figures.

The task of selection in respect of the numerous minor miscellaneous objects other than paintings and textiles from Central Asia required a great deal of careful consideration on the part of the Curator, who had to make sure that, despite limitations of space, the antiquities of any important epoch from any of the areas explored by Sir Aurel Stein did not go unrepresented in the collection selected for display. For this purpose Central Asia was divided into seven geographical units corresponding approximately to the number of wall cases in which the bulk of the antiquities selected had to be arranged. These seven geographical units are the following :—

(1) the country of ancient Kushtana corresponding to the modern districts of Kashgar, Yarkand, Khotan and Domoko, south of the Takla-makan ;
(2) all the deltaic and desert fringe lying between Domoko and Endere ;
(3) the area between Endere and Miran south-west of Lop desert ;
(4) the vast sandy stretch which joins Miran to Lou Lan ;
(5) the region extending from the eastern confines of Lop Nor to the north-western frontiers of China including the sites of Etsin Gol delta ;

(6) the oases and hilly tracts of Turfan and Pei T'ing near the foot of T'ien Shan range north of Kuruk-Tagh and
(7) the region north of the Taklamakan comprising Ying Pan and Kara Shahr districts on east and Kurghan and Uch Turfan on west.

The antiquities selected for exhibition number about five thousand and include more than three thousand small objects of every day use in the religious and temporal life of the people of different parts of Central Asia, during the early centuries of Christian Era, and 200 examples of such artistic objects as ancient textiles of exquisite patterns and weave, delicate drawings on paper, clever sketches, block prints and rare paintings on silk and linen. From the vast and varied hoards of prehistoric pottery finds recovered by Sir Aurel Stein from ancient sites in the regions on the north-west border of India and in Sistan, over one thousand pieces were chosen for display in the free standing cases.

For a part of the year, two archæological scholars Messrs. Sayyad Yusuf and Khalid Baig were deputed by the Government of His Exalted Highness the Nizam for training, in this Museum, in methods of Museum organisation. The Curator of the famous Ajanta Caves—Mr. Sayyad Ahmad—was also sent to this Museum by the Director of Archæology in the Nizam's Dominions to study the technique and materials employed for the treatment and preservation of Central Asian frescoes.

Altogether 60 antiquities as listed in Appendix B to this report, were added to the Museum collection during the year under report. The more remarkable of these new acquisitions are four small prehistoric pottery vases from a site near Sistan ; one 5-panelled Tiara of gilt copper studded with precious stones of sorts (Plate XLVIII, (1)) ; one crescentic *kīrtimukha* neck ornament (Plate XLVIII, (1)) ; one belt clasp ornamented with turquoise, rubies, saphires, corals, pearls, etc. (Plate XLVIII, (1)) ; a Dhyāni-Buddha medalion studded with corals (Plate XLVIII, (1)) ; one square belt buckle (Plate XLVIII, (1)) ; two square charm cases of gilt copper (Plate XLVIII, (1)) and three objects namely a lion's head in copper repoussé, a brass statue of Buddha and a celestial figure in flying pose also in gilt copper repoussé (Plate XLVIII, (2)).

During 1927 and 1929, certain fragments of ancient textiles, prints and drawings on paper of Central Asian provenance were sent to Miss Joshua of the Textiles Department of the British Museum, for expert treatment. Forty-five pieces of textiles and 124 prints and drawings were received back duly treated and mounted on suitable mounts during the year under report.

Seventeen books by purchase and eleven as gifts were added to the collection of books in the Museum Library. Altogether 189 photo prints of objects in this Museum were received from the Director General for record in the photo albums of the Museum. Of these photographs 54 relate to Baluchistan pottery specimens which were originally prepared to illustrate Sir Aurel Stein's Memoir on his explorations in Gedrosia.

SECTION V.

OFFICER ON SPECIAL DUTY.

Sir John Marshall.

The Director General, Sir John Marshall, remained on special duty during the whole of the official year 1929-30. From April to the latter part of October he was engaged chiefly, at headquarters, in the writing and editing of his *magnum opus* on *Mohenjo-daro and the Indus Civilization,* which is to be published in 3 large 4to volumes and will comprise about 800 pages of letterpress and 160 plates besides text illustrations, a coloured map of Sind and Baluchistan and a Site plan. *Pari passu* with this work Sir John also corrected the proofs of the *Annual Report for 1926-27* and of Dr. E. Herzfeld's *Memoir on Kushano-Sasanian Coins*, the typography of which was more than usually complicated. He also examined for the Ceylon Government Dr. Hocart's *Memoir on the Temple of the Tooth, at Kandy,* and contributed the following articles to the Departmental and other Reports, *viz.*:—

1. Account of his excavations at Taxila during 1928-29 (27 pp. with one plan and 6 other plates).
2. Brief reports on the Taxila Museum for 1927-28 and 1928-29, and of his own activities during his special duty from September 6th, 1928, to 31st March, 1929.
3. A note for incorporation in the *Moral and Material Progress Report of India,* 1928-29.

Sir John left Simla on October 22nd and from that date to the end of the official year divided his time chiefly between his excavations at Taxila, to which he devoted nearly 12 weeks of the winter season, and the Monuments of Agra, to which he devoted nearly 6 weeks. Between November 25th and 29th he paid a brief visit to Harappa in order to discuss with Mr. Vats certain questions that had arisen in connection with the prehistoric cemeteries and other remains at that site; and between January 15th and 20th he paid an equally brief visit to Delhi to examine the big collection of prehistoric pottery brought back by Sir Aurel Stein from Baluchistan.

On March 18th, 1930, Sir John Marshall left Taxila for England on 8 months' leave.

SECTION VI.

ARCHÆOLOGICAL CHEMIST.

During this year, 980 antiquities of various kinds were received in the laboratories of the Archæological Chemist for necessary chemical treatment or preservation, from the officers mentioned below :—

Director General of Archæology in India	80
Mohenjo-daro	319
Northern Circle, Lahore (including Harappa)	207
Central Circle, Patna	312
Southern Circle, Kotagiri	45
Burma Circle, Mandalay	1
Indian Museum, Calcutta	1
Central Museum, Lahore	14
Gwalior State	1
TOTAL	980

Most of these objects were of copper or its alloys while the remainder consisted of iron, gold, silver, lead, faience, steatite, terra-cotta, stone, etc. Two examples of the chemical treatment are illustrated on Plate XLIX, *a-d*. The preservation of fragments of a birch bark manuscript, discovered at Takht-i-Bahi, has been carried out successfully by Mr. Sana Ullah. The fabric had become brittle, but was rendered quite soft and pliable by subjecting it to the action of steam for a few minutes, and while in this condition, it was quickly removed and pressed flat between sheets of plain glass. Finally, the fragments were mounted between pairs of glass sheets. The backing and mounting of the silk paintings belonging to Stein Collection in the Central Asian Antiquities Museum, New Delhi, has also been taken in hand, by Mr. Sana Ullah, and the technique and style adopted by him is that adopted in the British Museum for this class of objects.

It has been observed that coins of lead generally deteriorate much faster than those of other metals and in several cases they have been entirely reduced to powder. There is hardly any doubt that the agency responsible for this action is the acid vapour (acetic acid, etc.) given off by the teak wood employed for the construction of the cabinets. Mr. Sana Ullah has suggested that lead coins should be kept in metallic cabinets and the Lahore Museum has already adopted these for their important coin collection.

The problem of the control of wild bees which disfigure some of our monuments by building their nests on them, had been referred to the Archæological Chemist. He suggested the application of a solution of phenyle (saponified cresol) and the experiments carried out at Agra indicate the efficacy of this simple remedy. Further experiments in this direction are in progress. Several sculptures in the Archæological Museum at Sarnath, which were coated with calcareous

deposits and black moss have been cleaned under his direction. The removal of dirt and whitewash from the temple at Baijnath, District Kangra, as well as, the elimination of paint and grease from certain sculptures in the Muttra Museum, have also been carried out under his advice.

At the request of the Rāmpur Durbar, Mr. Sana Ullah was deputed to inspect the valuable collection of manuscripts and paintings in the State library at Rāmpur, with a view to suggest measures for their preservation. He reports that "the most urgent problem, however, is that of the insects which infest the manuscripts and are responsible for considerable damage to several volumes. The havoc caused by these pests varies in extent, but in some cases substantial portions of precious works have been consumed. The paintings in the albums have suffered badly through rubbing .... Apart from this, there is evidence of the disintegration of the pigments resulting from the decomposition of their binding medium". He recommends fumigation with hydrocyanic acid gas for the destruction of the insect pests. He has also suggested the mounting of the paintings in sunk boards (after the practice followed in the British Museum) in order to eliminate the risk due to the rubbing; and treatment with a dilute solution of cellulose acetate, for refixing the loose pigments.

The specimens received by the Archæological Chemist, for examination and report numbered 103, and comprised copper and its alloys, silver, lead, iron, glass, glaze, stone, lime, mortar, ink, pigments, ivory, cinnabar, löllingite, etc. A lime mortar, free from gypsum has been discovered this year, at Mohenjo-daro, employed in the construction of a well built drain and cess-pit, at a low level. It may be recalled that gypsum mortar had been employed extensively in the later periods at Mohenjo-daro. It is interesting to record, this year, the discovery of lime mortar, free from gypsum at Mohenjo-daro, as well as, at Harappa. The composition of specimens received from both of these sites is as follows:—

(*a*) Mortar, DK. 8492, from Drain and Cess-pit, Mohenjo-daro:—

	Per cent.
Calcium carbonate	39·96
Magnesium carbonate	8·82
Water	3·74
Clay, sand, etc.	47·48
Gypsum	traces
TOTAL	100·00

(*b*) Mortar from Floor, Trench VI, Harappa:—

	Per cent.
Calcium carbonate	35·02
Magnesium carbonate	10·62
Water	2·97
Clay, sand, etc.	51·39
Gypsum	traces
	100·00

The high proportion of clay and sand in these specimens is noteworthy and it, therefore, appears highly probable that the lime was prepared by burning '*kankar*', or the calcareous nodules which are widely distributed in Upper India and which even now constitute an important source of lime mortar. The burning of lime for mortar, at a very early period in the Indus Valley may, therefore, be regarded as an established fact; but it is obvious that its use was restricted to drains or floors where a better resisting mortar than common mud was deemed necessary.

Specimens of glazed terra-cotta tiles of the typical Sinhalese pattern, found in the excavations at Anuradhapura, were received for examination from the Archæological Department of Ceylon. The result of the analysis (by Mr. Sana Ullah) of a greenish blue glaze is as follows:—

	Per cent.
Silica	66·26
Alumina	12·09
Ferric oxide	0·11
Manganese oxide	*nil*
Lime	2·10
Magnesia	tr.
Copper oxide	2·33
Alkalies (chiefly soda)	17·11
TOTAL	100·00

These finds show that the art of glazing was practised in Ceylon earlier than 8th century A.D.

A peculiar whitish substance from Mohenjo-daro was also analysed by Mr. Sana Ullah which appears to be decayed bone, its composition being as follows:—

	Per cent.
Lime	39·68
Magnesia	0·76
Phosphoric anhydride	30·91
Carbonic acid	5·36
Alumina and iron oxide	1·63
Water	13·97
Clay and sand	6·99
TOTAL	99·30

The contents of an inkpot recovered at Taxila were found, on examination, to consist of black carbon mixed with earth, which leave no doubt that carbon ink was in use in the Kushān period. A number of specimens of incrustations obtained from the stonework at the Imperial Secretariat Buildings, New Delhi, were received for chemical examination but the main problem of the disintegration of the stone is still under investigation. An alloy of gold and silver from Taxila contained 6·37 per cent. of silver. A specimen of lead (DK. 6314) and one of silver (DK. 5774) from Mohenjo-daro were examined by Dr. Hamid. The lead was found to be free from silver and the silver specimen contained

·42 per cent. of lead and 3·68 per cent. of copper indicating that the 'cupellation' process was probably practised for the separation of silver from lead. The proportion of copper is derived, undoubtedly, from the original lead ore (cerrusite) which is frequently found associated with cuprite in Baluchistan.

Some further analyses of copper and its alloys, recovered this year at Mohenjo-Daro, have been carried out by Mr. Sana Ullah and Dr. M. A. Hamid and are reproduced in the accompanying table. It is interesting to study these analyses closely. Specimens Nos. 3—6 represent refined copper in general use, containing upto about 3 per cent. of impurities. For raising elaborate vessels a much purer product is necessary, but these grades are good enough for casting heavy objects, *e.g.*, celts, bars, etc. Nos. 2 and 11 are examples of low grade bronze of moderate hardness in which the proportion (2 to 2·5 per cent.) of tin has probably been derived from the original copper ore. It may be noted that the latter specimen contains also 2·45 per cent. of arsenic, which should add considerably to the hardness of the alloy. These alloys are suitable for rough implements which do not require a keen edge. Nos. 7—10 are better grade bronzes which were prepared intentionally, by the addition of tin or its ore. It is noteworthy that the chisel (No. 9) contains 9·14 per cent. tin, as well as, 1·45 per cent. antimony as hardening ingredients. This along with the specimen No. 10 indicates that the advantage of the 10 per cent. alloy for sharp-edged tools had become recognized. No. 1 represents a copper-arsenic alloy which is as hard as a low grade bronze. It is difficult to decide whether such a high proportion of arsenic was alloyed with copper intentionally, in the form of a flux, or the alloy was obtained by smelting a highly arsenical copper ore. In this connection it is interesting to recall the occurrence of ignited specimen of löllingite or leucopyrite at Mohenjo-daro which could have served this purpose. Similar alloys of copper and arsenic were used also in Egypt and at Anau very early, and it is quite conceivable that these were prized for their hardness before the advent of high grade bronze.

Paraffin paste has been recommended to check the disintegration of stone in five monuments namely (*a*) Fort wall at Chānda, (*b*) Mahadeo temple at Dhotra, District Buldāna, (*c*) Udayagiri Caves, (*d*) Bāgh Caves and (*e*) the gigantic Jain image at Barwānī.

During the excavation season the Archæological Chemist carried out the preservation of a number of burial jars, human skeletons and animal bones which were discovered at Harappa. The bones were found to crumble away quickly after exposure to the dry air and in order to forestall this action, they were impregnated repeatedly with shellac dissolved in alcohol, a treatment recommended by Col. Sewell, Director of the Zo[illegible]l Survey of India. All the pottery which had to remain in the tre[illegible]osed to the atmospheric action for several days, was coated with [illegible] revent its disintegration. All bones and burial jars which co[illegible] immediately were stored away in a dug-out in the groun[illegible]h moist earth. In this manner they have been found [illegible]m the deleterious atmospheric action mentioned above.

Mr. Sana Ullah has contributed one more chapter, entitled "Notes & Analyses" to the forthcoming volumes on Mohenjo-daro. Dr. M. A Hamid carried out experiments on the patination of bronzes and his results have been described in the Section—MISCELLANEOUS NOTES.

Mr. M. A. Saboor of the Central Museum, Nāgpur, was trained in the modern scientific methods for the cleaning of coins, in the chemical laboratory at Dehra Dun.

Chemical Analyses of Copper and its Alloys from Mohenjo-daro.

Serial No	Specimen.	Copper.	Tin	Antimony.	Arsenic	Lead	Iron	Nickel	Sulphur.	Total.	Analyst
1	DK. 7860 lump . .	93 56	0 79	..	4 38	0 90	..	0 41	..	100 04	M. Sana Ullah.
2	DK. 8896 celt . .	95 45	2 47	..	0 48	1 03	0 30	0 21	..	100 00	Do.
3	DK 5360 frying pan .	97 53	0 44	0 22	0 95	0 06	0 39	0 25	0 16	100 00	Dr. M A. Hamid.
4	DK. 7343 crow bar .	97 66	..	..	0 24	0 81	0 20	0 90	0 10	100 00	Do.
5	DK 7853 celt . .	97 15	0 32	0 06	0 40	0 73	0 23	0 34	0 71	100 00	Do.
6	DK 7859 lump . .	97 43	..	.	0 25	0 84	0 58	0 41	0 49	100 00	Do.
7	DK. 7535 celt . .	91 40	6 16	0 25	0 67	0 59	0 33	0 48	0 12	100 00	Do.
8	DK. 7854 celt . .	90 19	7 06	0 43	..	0 05	0 50	0 20	0 07	100·00	Do.
9	DK. 7856 chisel . .	87 66	9 14	1 45	..	0 45	0 59	0 71	..	100 00	Do.
10	DK. 7861 lump . .	89 21	9 07	0 14	..	0 22	0 10	0 30	0 06	100 00	Do.
11	DK 5486 celt . .	94 19	2 06	tr.	2 45	0 23	0 39	0 68	..	100 00	Do.
12	DK. 6043 bar .	88 39	8 70	0 55	1 60	tr.	..	0 69	0 07	100 00	Do.

SECTION VII

TREASURE TROVE.

Punjab.—The coins discovered in the districts of Attock, Lahore and Kangra and noticed in the last year's report have been distributed to different museums. The copper coins discovered last year at the Multan Agricultural station have also been examined and a report on them submitted to the Punjab Government. This hoard consisted of 634 coins and includes issues of the Emperors Sher Shah Suri, Akbar and Jahangir and a few Sikh coins. A great proportion of the coins were similar to one another and most were badly worn, so that out of the collection only 285 specimens have been selected, the remainder being returned to the Deputy Director of Agriculture, Multan.

Finds reported during the current year were as follows :—

(*a*) 10 silver coins of the Mughal Emperors Aurangzeb, Farrukhsiyar and Muhammad Shah discovered in Tahsil Isakhel, District Mianwali.

(*b*) 4 gold *mohars* and 12 silver rupees of the Emperor Akbar discovered in the village of Doburji, Tahsil Pasrur, District Sialkot.

(*c*) 304 silver coins of the Mughal Emperors Shahjahan, Aurangzeb and Shah Alam Bahadur Shah discovered in Tahsil Sargodha, District Shahpur.

(*d*) 61 silver coins of the Mughal Emperors Aurangzeb, Shah Alam Bahadur Shah, Farrukhsiyar, Muhammad Shah, Ahmad Shah and Alamgir II discovered in the village of Sidhan Bet, Tahsil Jagraon, District Ludhiana.

All these finds have been examined and reports on them will be submitted to the Punjab Government as soon as the coins have been formally acquired by the Deputy Commissioners concerned.

A copper cauldron (height 12″), handle of another utensil and a small fragment (height $4\frac{1}{2}$″) of the halo of a Gandhara relief were exposed by floods in the Indus river at a spot half a mile south of the Buddhist stupa at Rokhari, District Mianwali. All these antiquities belong to the early centuries of the Christian era. The cauldron is similar in all respects to the inscribed copper jar found at Shorkot in 1906 and now preserved in the Central Museum, Lahore.

North West Frontier Province.—A hoard of 42 silver Muhammadan coins was discovered in a pot washed out by rains from the slopes between Karamar and Doda in the Peshawar District. The coins were transferred to this office by the Deputy Commissioner, who, after their examination was asked to acquire them as they were of numismatic value, being issues of the Emperors Aurangzeb, Shah Alam I, Jahandar Shah, and Farrukhsiyar. After acquisition most of them have been distributed among the various institutions on the Distribution List of the Government of India.

United Provinces.—In the United Provinces 10 finds, two from Sitapur and one from each of the districts of Jhansi, Basti, Sultanpur, Bareilly, Hardoi,

Kheri, Meerut and Budaun, were examined by Rai Sahib Babu Prayag Dayal, Secretary, Coin Committee, United Provinces. These finds comprised 1099 coins (1 gold, 278 silver and 820 copper and billon).

Only a few of these coins represented specimens of ancient and mediæval coinage; the others belong to the Sultans and Mughal Emperors of Delhi, the kings of Jaunpur, Malwa and Awadh and to East India Company. Among rarities may be mentioned a billon piece of Firoz III, mint Sahit-i-Sindh (published in Numismatic Supplement XXXV, p. 165) and two silver rupees of Malwa kings, which on account of their fragmentary inscriptions can not be deciphered.

Eastern Circle.—The 182 silver coins of the kings of the Husaini and Suri dynasties discovered at Raipara, District Dacca, and described in the previous report were distributed in accordance with the Distribution List of the Government of India.

Two important finds of treasure not consisting of coins deserve special mention. One of them is a stone image of the Bodhisattva Avalokitesvara ($3\frac{1}{2}'' \times 2''$) which was discovered while a tank was being dug at Khalisakota village, P. S. Banoripara in the District of Bakarganj. The sculpture is inscribed on its back with the Buddhist creed "*ye dharmmā hetu-prabhavā*" etc., in the proto-Bengali characters of about the 10th Century A.D. The image has been acquired, free of charge, for the Indian Museum, Calcutta, on condition that it is to be exhibited in the public galleries with a label bearing the name of the finder, Sj. Ram Charan Chatterjee.

The second find consisted of a large-sized image of Vishnu which on grounds of style and technique may be assigned to about the 11th Century A.D. Three hands of the image are missing. As images of this type are common enough action under the Indian Treasure Trove Act for its acquisition was not deemed necessary.

Burma Circle.—Acquisition proceedings in respect of the two gold images of the Buddha discovered in the previous year were completed and the images placed in the Museum at Pagan.

SECTION VIII.—MISCELLANEOUS NOTES.

AN IMAGE OF GAJĀSURASAMHĀRAMŪRTI ŚIVA.

By Rai Bahadur Daya Ram Sahni.

A subject rarely represented in Northern Indian sculptures but frequently met with in Southern India, especially, in the Kanarese Districts of the Bombay Presidency, is the destruction of the Elephant Demon by Śiva. The story of this episode is found in the *Kūrmapurāṇa*, the *Varāhapurāṇa* and other Sanskrit texts. According to the former, Śiva issued forth from a *liṅga* at Kāśī, when an *asura* in the form of an elephant had assailed a party of *Brāhmaṇas* engaged in worshipping the image. The god killed the Elephant Demon and put on the hide of the animal as a garment. He was thus known as Kṛittivāseśvara. According to the *Varāhapurāṇa*, Śiva killed the Elephant Demon referred to when he was fighting the Andhakāsura. The Elephant Demon whose original name was Nīla had arrived with a view to carry away Pārvatī and was destroyed by Vīrabhadra, a favourite *gaṇa* of Śiva. The skin of the elephant was then presented by Vīrabhadra to Śiva.

Several images of this type are illustrated in T. A. Gopinatha Rao's *Elements of Hindu Iconography*, Volume II, Part I, plates 30 *seq.*, and a bronze image of the 17th century in Plate LXXVI, Figure 248 in Coomaraswamy's *History of Indian and Indonesian Art.* No images of this type appear, however, to have been described or illustrated in the Annual Reports of the Archæological Survey Department. The image described in this note (Plate XLIX, *e*) has been in the archæological collections now preserved in the Prince of Wales Museum of Western India, Bombay, since 1881. It was brought from Lakkundi in the Dharwar District. There are two important Śiva temples at Lakkundi, *viz.*, the temple of Kāśīviśveśvara and the temple of Naṇṇeśvara, but to which of these two temples the image under consideration belonged is not known.

The image in the Prince of Wales Museum to which my attention was drawn by Mr. Acharya, Curator of that institution, is 2′ 1″ high, 1′ 7″ wide and 6″ thick. The material is a fine-grained stone and the whole sculpture is carved with considerable skill and grace. Śiva has eight arms all of which are more or less broken as are also the legs from the thighs downwards. The left foot is, however, preserved and in accordance with the rules given in the *Śilpaśāstras* firmly set upon the severed head of the elephant lying upon the base. In accordance with the same injunctions, the right leg was bent and the foot planted upon the left thigh in the *utkuṭakāsana* pose. The skin of the elephant is spread behind the deity in the form of a halo (*prabhāmaṇḍala*). The *jaṭāmakuṭa*, the characteristic headdress of Śiva, is delineated with great care, and shows what must have been a garland of skulls along the forehead, while the single skull above this must be identified as the skull missile which, along with other weapons, was discharged against Śiva by the enraged Ṛishis of the Meru when

the god was passing by the slopes of that mountain. The figure holding a mirror in the left and a flower or *chauri* in the right hand to the proper right of Śiva must be Devī, but the similar figure on the opposite side is too much worn to be identified. The line of tiny figures, apparently in flight, above the edge of the elephant's hide would appear to represent the heavenly musicians while the eight figures above this, riding their respective vehicles are the eight guardians of the quarters (*ashṭadikpāla*). The groups of figures along the right border and the top and at the base of the sculpture are evidently musicians celebrating the victory of Śiva over the Elephant Demon.

Another occasion which necessitated the emergence of Śiva from the *lingam* was when he rescued his worshipper Mārkaṇḍeya from the *pāśa* or noose of Yama. Representations of this subject occur at Ellura and, in all these cases, Śiva is actually shown as issuing from a *liṅgam*. This part of the story appears to be omitted from all the known representations of the Gajahāmūrti.

The date of the image, which forms the subject of this note, must be assigned to about the 11th century A.D.

MEDIÆVAL INDIAN SCULPTURE.

By Rai Bahadur Ramaprasad Chanda.

If a visitor had surveyed the monuments of Northern India in the first century A. D., he would have been struck by one important feature that distinguished the art of the area on the west of the meridian of Mathura from the art of Central and Eastern India. He would have noticed with surprise that while the figures of the Jinas (Tīrthaṅkaras) and the Buddhas occurred in the bas-reliefs of Gandhāra and Mathura, they were conspicuous by their absence on the Buddhist and Jaina monuments of Sanchi, Bharhut, Sarnath, Bodh-Gaya and Khandagiri (near Bhuvanesvar in Orissa). I have already dealt with the probable cause of this difference in my note above (pp. 191-194). In the present note I propose to deal with the transformation that the art of the East underwent as a consequence of the introduction of the figure of Gautama Buddha from the West. The earliest images of Gautama, both as the Bodhisattva and the Buddha, found at Sanchi.[1] Sarnath and Sravasti are of Mathura type and style and made of spotted red sandstone from Mathura. The images of the standing Buddha unearthed at Sarnath enable us to follow the evolution of the type in the East from the Mathura proto-type step by step.

(1) The series begins with the colossal image of the standing Bodhisattva of spotted red Mathura sandstone dedicated by the Trepiṭaka (master of the Tripiṭaka), Friar Bala, at Benares (Sarnath) with, among others, the Trepiṭaka (nun) Buddhamitrā, at the *chaṁkama* (place of promenade) of the Buddha in the third year of the Mahārāja Kanishka.[2] The eyes and the nose of this figure are damaged: but enough remains of the former to indicate that they were not wide open. The right arm is lost. The left arm is bent at the elbow and

[1] *Catalogue of the Museum of Archæology at Sāñchi, Bhopal State*, Calcutta, 1922, Plate II.
[2] Daya Ram Sahni, *Catalogue of the Museum of Archæology at Sarnath*, Plate VII.

the left hand rests on the hip with the fingers clenched. The figure stands erect in the posture known as *Kāyotsarga* (dedication of the body) by the Jains. Between the feet is the small figure of a lion facing. The upper garment passes over the left shoulder and the left arm, reaching as far down as the wrist, arranged in parallel conventional folds that are modelled in low relief on the arm and mostly indicated by inscribed lines elsewhere. A small portion of the halo with plain scalloped border still adheres to the back of the shoulder and certain other fragments of it have been recovered. A replica of this image, dedicated by the same Trepiṭaka Friar Bala at Śrāvastī sixteen years later, is now exhibited in the Indian Museum.[1]

The votive inscription on the base of a seated image of the Buddha (Bodhisattva) from the Chaubara mound near Mathura (now in the Lucknow Provincial Museum) tells us that it was dedicated in the year 33 of Mahārāja Devaputra Huvishka at Madhuravaṇaka by the nun Dhanavatī, the sister's daughter of the Trepiṭaka nun Buddhamitrā, who was a female pupil of the Trepiṭaka Friar Bala. This Friar Bala and the nun Buddhamitrā evidently belonged to Mathura and their identification with the donors of the Sarnath image is also unavoidable. Dr. Vogel rightly infers that these colossal Bodhisattva images were caused to be made at Mathura by the Trepiṭaka Friar Bala and carried to Sarnath and Śrāvastī for dedication.[2]

(2) The headless standing Buddha image B(*a*)2 in the Sarnath Museum (Plate XLIII, *d*) marks the earliest stage in the evolution of the standing image of the Buddha in the East. It is made of Chunar sandstone. The left arm of this image is posed exactly in the manner as the left arm of the Bodhisattva of Bala. The folds of the drapery covering the left arm are not modelled like the folds of the drapery over the left arm of Bala's Bodhisattva, but are marked by double lines clumsily inscribed. It must have been made locally by local stone masons.

(3) The headless standing colossal Buddha image B(*a*)3 marks the second stage. It is also made of Chunar sandstone. The drapery is quite plain and the folds are not marked even by inscribed lines. The right fore-arm is well preserved. It makes a sharp angle at the elbow. The fingers of the outstretched hand in the attitude of protection (*abhaya-mudrā*) reach as high as the shoulder. But this stiff pose reminds one more of modern military salute than a benevolent gesture. The left fore-arm, instead of resting on the hip with clenched fingers, slightly projects forward and the left hand holds the hem of the outer garment (Plate XLIII, *e*, standing Buddha under the umbrella).

(4) The third stage in the evolution is illustrated by the image B(*b*)1 (Plate XLIV, *g*) of Chunar sandstone. The well-preserved round halo has scalloped border like the Mathura images of the Kushan period. Unlike the Bodhisattva of Bala the hair on the head of this image is arranged in short wavy curls turned to the right and the *ushṇīsha* is indicated by a protuberance. The eyes are half-shut and fixed on the tip of the nose and the countenance reflects concen-

[1] *Epigraphia Indica*, Vol. VIII, pp. 180-181 and Plate.
[2] *Ibid.*, Vol. VIII, p. 174.

tration of the mind. The figure stands erect in the *Kāyotsarga* posture. The artist has learnt to ease the stiffness of this frontal pose. It, therefore, combines the severe dignity of the Kushan art of Mathura with a delicacy and grace of execution that foreshadows the Gupta art. A nearly analogous stage of development at Mathura is marked by two standing images of the Buddha of red sandstone from Mathura in the Indian Museum.[1] Graceful parallel wavy lines, indicating the folds of the drapery, distinguish the works of the Mathura branch of the Gupta school from those of the Eastern branch with plain drapery sticking to the body.[2]

(5) The best example of the transitional art, that has come down to us, is the standing image of Buddha of red sandstone, A. 5 in the Mathura Museum of Archæology.[3] The figure stands erect in frontal pose, but the expression of the face has attained an intensity and dignity unknown in the pre-Gupta period.

The Gupta art reached its apogee in the second half of the fifth century A.D. The standing Buddha images representing this stage are characterised by intensity of expression, greater delicacy of execution and the adoption of naturistic pose of standing. The median line, instead of being perpendicular and dividing the body into two exactly equal halves, bends into a graceful curve by the inclination of the torso slightly to one side and throwing the weight of the body on one leg, so that one hip is higher than the other. As a specimen of the type we reproduce in Plate XLIV, *d* the fairly well-preserved image in the Sarnath Museum bearing a votive inscription on the base dated in 154 Gupta Era (A.D. 473-474) unearthed by Mr. Hargreaves at Sarnath in 1914-15. Perhaps to an earlier date should be assigned the standing image of the Buddha from Sarnath in the Indian Museum, S. 30 (Plate XLIV, *b*) in the attitude of offering boon which shows greater freedom of execution. The left hand of this image, holding one of the hanging ends of the girdle, rests on the left hip. A branch of the Gupta school also flourished in the Deccan. The Gupta types of standing and seated images of the Buddha are found carved in front of the Chaitya caves XIX[4] and XXVI[5] at Ajanta and in the Kanheri cave LXVI.[6] The execution of these images is crude, but the spirit to which they give expression is the same. What is this spirit ?

The spirit that permeates the Buddhist, Jaina and Brahmanic images is the spirit of *dhyāna* (Pāli *jhāna*) or *dhyāna-yoga*, or rather the highest stage of *dhyāna* which is called *samādhi*. The outward manifestation of *dhyāna*, according to the *Bhagavadgītā* (VI, 13), is the erect pose of the body, neck and head with eyes fixed on the tip of the nose without glancing at any other direc-

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[1] *A. S. I.*, 1922-23, Plate XXXIX, Figs. (*a*) and (*c*).

[2] The colossal standing Buddha of copper from Sultangunge (in the Bhagalpur District, Bihar) in the Birmingham Museum is an exception. (Coomaraswamy, *History of Indian and Indonesian Art*, London, 1927, Plate XII, Fig. 160).

[3] *A. S. I.*, 1922-23, Plate XXXIX, Fig. (*b*).

[4] Coomaraswamy, *op. cit.*, Plate XXXVIII.

[5] *Archæological Survey of Western India*, Vol. IV, Plate III.

[6] Coomaraswamy, *op. cit.*, Plate XLIII, Fig. 164.

tion. In the Maurya art and in the Śuṅga art that dominated Central and Eastern India till the invasion of the Mathura school under Kanishka and Huvishka, the figure sculptures show wide open eyes looking outward. As an inscribed group of Śiva and Pārvatī from Kosam (Kauśāmbī) in the Indian Museum (Km. 40, Plate IX, Fig. 23) of G. E. 139 (A.D. 458-459) with wide open eyes, and drapery disposed in archaic style, shows, the early school survived in the East up to the fifth century A.D. The pose of *dhyāna-yoga* on the other hand is discernible in figures on seals discovered among the Chalcolithic remains of Mohenjo-daro and Harappa dating from 3,000 B.C.[1] After an interval of about three millenniums, of which no archæological relics have yet been discovered in the Punjab and Sind, the pose reappears in the Buddhist images of Gandhāra and in the Buddhist and Jaina images of Mathura. Though the artists of the Gandhara and Mathura schools succeeded in reproducing the outward form, they rarely succeeded in catching the inner spirit. The Mathura images are expressionless and in the best Gandhara images the expression is superficial. Over two centuries spent in experiments after the first introduction of the images of Gautama from Mathura the artists of Benares and other centres in Eastern and Central India succeeded in giving full expression to the spiritual vision of the *dhyāna-yogin* in the second half of the fifth century A.D. The *Dhyāna-yogin* aims at *sambodhi* or *kevala-jñāna*, "perfect knowledge", or *ātma-jñāna*, "self-knowledge". An all-knowing being like Buddha or Jina, or a self-knowing being like Vishṇu or Śiva, is the Supreme Being conceived by the Hindus, and an image showing absorption in the intensest form of *dhyāna* or *samādhi* endeavours to give plastic expression to this conception.

Of the new type of image thus evolved, two different varieties or sub-types, a primary and a secondary type, may be distinguished. The primary type whether seated or standing, shows itself exclusively engaged in *dhyāna-yoga*. Images of the Buddha, the Jaina Tīrthaṅkaras and Brahmanic deities in *dhyāna-mudrā*, seated cross-legged with the two hands placed on the lap one above the other, and eyes fixed on the tip of the nose, represent the *Dhyāna-yogin par excellence*. The standing Jaina Tīrthaṅkaras with the two arms hanging on two sides in the *Kāyotsarga* posture are the primary standing type of *Dhyāna-yogin* type.[2] Most images of the Buddha, whether seated or standing, while showing the pose of the *dhyāna-yogin* on the face, are shown as performing some sort of action, such as offering protection or boon, calling the earth to witness by touching it, expounding the doctrine (*vyākhyāna-mudrā*), holding the bowl, with one or both hands. Remaining absorbed in *dhyāna* without taking the eyes off from the tip of the nose and the mind off from the object of contemplation on the one hand, and the slightest gesture of the hand on the other, simultaneously, are physically impossible. But the All-knowing or Self-knowing Beings, whom the different Hindu sectaries adore and follow, are believed to be engaged in performing this miracle and the artist was required to give shape to it. The task thus set before

[1] Chanda, *Survival of the Prehistoric Civilisation of the Indus valley.* (*Memoirs of the Archæological Survey of India*, No. 31), Plate I, 4.

[2] *A. S. I.*, 1925-26, Plate LVI, Fig. (c)

the Indian sculptor may also be described as an artistic miracle. To what extent he achieved success in his attempt to perform this miracle is better illustrated by the Brahmanic images showing violent action than by Buddhist images. In Plate XLIV, *a* is reproduced a life size image of Gopāla-Kṛishṇa holding up the mount Govardhana from Benares (now in the Sarnath Museum) assignable to the sixth century A.D. The shepherds and cowherds, among whom Kṛishṇa was brought up, used to offer sacrifices to Indra annually. Kṛishṇa suggested that as the Gopas were not cultivators, they need not worship Indra, but should offer sacrifices to mountain and kine. The cowherds of Vraja followed Kṛishṇa's advice and offered sacrifices to mount Govardhana. Indra in anger caused storm and heavy downpour of rain to punish the Gopas. Finding the latter in consternation Kṛishṇa determined to give them protection by holding aloft the hill.

"Having thus determined, Kṛishṇa immediately plucked up the mountain Govardhana, and held it (aloft), with one hand, in sport, saying to the herdsmen: 'Lo! the mountain is on high. Enter beneath it, quickly; and it will shelter you from the storm. . . . . . Enter (without delay); and fear not that the mountain will fall'. For seven days and nights did the vast clouds, sent by Indra, rain upon the Gokula of Nanda, to destroy its inhabitants; but they were protected by the elevation of the mountain."[1]

The pose of the image of Kṛishṇa holding aloft the mount Govardhana with his left arm is natural and restrained. The figure, even in its present mutilated condition, is full of grace and movement. The folds of the muscles on the right side add softness to the stone. The body really shows that the God-man is holding up a heavy weight "in sport". But the face tells a different tale. The left eye is almost effaced; but enough remains of the right eye to show that it was fixed on the tip of the nose. The face, though sadly damaged, shows dispassionate meditation. This is not the correct posture of the face of one who is saying, "Lo! the mountain is on high. Enter beneath it, quickly, and fear not that the mountain will fall". In some of the Brahmanic sculptures of the Gupta period, the principle is carried to an unjustifiable length. In the gajendra-moksha sculpture in the northern niche of the Gupta temple at Deogarh in the Jhansi District in the United Provinces, the elephant is caught up by the coils of the serpent body of the Nāga. Vishṇu, riding on Garuḍa has appeared to rescue him. Though the pose of Vishṇu's body indicates his readiness to use the club and other weapons, if necessary, his face shows absorption in *dhyāna*. The Garuḍa also is engaged in *dhyāna* with eyes fixed on the tip of the nose. This is an unnatural pose for a carrier. In the post-Gupta period Garuḍa is usually carved with wide open eyes. The Nāga and the Nāgī who offer adoration to Vishṇu with joined hands do not look at the object of their adoration, but are absorbed in *dhyāna*. It is this abnormal aspect of the Gupta and the post-Gupta figure sculpture that baffles not only western scholars, but also Indians of to-day. As Rajput paintings illustrating

[1] Wilson's *Vishnu Purāṇa*, V, 11.

scenes from the life of Gopāla-Kṛishṇa and other mythological incidents show, Indians have long since abandoned the ideal of *dhyāna-yoga* in art. This ideal imposed other limitations on Indian figure sculpture. A certain stiffness is inseparable from the pose of the austere *dhyāna-yogin* who must hold the body, neck and head erect and it easily lends itself to mannerism. Thus the religious ideal of the Hindus prevented the full development of their aesthetic feeling.

As a repercussion of the birth of the Gupta art, there arose in the South in the second half of the sixth century A.D. a vigorous school of Brahmanic art. As *dhyāna* or dispassionate meditation is the keynote of the Gupta art, *action* is the keynote of the South Indian early mediæval art. In cave temple No. 1 at Badami, the images of dancing Śiva and Durgā engaged in crushing the head of the demon Mahisha by her right foot, show wide open eyes.[1] The spirit of the South is best illustrated by the representations of the fight between Durgā and the demon Mahisha (buffalo). In the North this fight is invariably represented in its final stage when the goddess has already overpowered the demon and is calmly watching the effect of the last fatal blow. Two of the early mediæval sculptures of the South show us an earlier stage of the struggle when the goddess is actively engaged in a duel with the demon. One of these is found on the side of the porch of the magnificent rock-cut Kailāsa temple at Elura[2] (Plate XLIV, *f*). The goddess, seated on her lion, but not seated astride, is shooting arrows at the demon who is rushing towards her with uplifted club. A similar representation of the duel is found on the right-hand wall (on entering) of the Mahishāsura Maṇḍapa at Mamallapuram. Here Durgā, riding astride on the lion, is shown in the act of pursuing and shooting arrows at the demon king Mahisha who, holding his club in both hands, is in full retreat.[3]

The South Indian art of action has left its impress on the Buddhist paintings of Ajanta. Here the artist, like his colleague in the North, does not confine himself to delineating the eight miracles of Gautama Buddha,—his birth, his enlightenment, his first sermon, his acceptance of the bowl of honey from the monkey at Vaiśālī, his taming of the wild elephant Nālagiri at Rājagṛiha, his descent from heaven at Sāṅkāsya, his creation of other Buddhas at Śrāvastī, and his *mahāparinirvāṇa* at Kuśinagara, in all of which the figure of the master is absorbed in *dhyāna*. The only Jātaka story hitherto known to have been carved by an artist of the Gupta period in the north is the Kshāntivādi jātaka on a door lintel discovered at Sarnath. But the artists of Ajanta paint the Jātaka legends in the same naturalistic fashion in which the sculptors of the Śuṅga period carved them on the railing of Bharhut and the gateways of Sanchi. Lawrence Binyon writes, "These men (the artists of Ajanta) painted Indian life as they saw it; and, though we feel the glow of a religious impulse behind their creation, we are above all impressed with their intuitive discovery of the beauty in natural movement, unstudied attitude, spontaneous gesture". The figures of

[1] R. D. Banerji, *Basreliefs of Badami* (*Memoirs of the Archæological Survey of India*, No. 25). Plate II, *a* and *b*.

[2] Burgess, *Archæological Survey of Western India*, Vol. V, pp. 28-29.

[3] Vogel, *Iconographical Notes on the Seven Pagodas*, *A. S. I.*, 1910-11 p. 55, Plate XXIX, *a*.

Gautama Buddha and of the divine Bodhisattvas introduced in the paintings of Ajanta are not shown as absorbed in *dhyāna*, but looking on filled with deep compassion.

From the Gupta art branched off two vigorous offshoots in the post-Gupta period: the Pāla art that flourished in the kindgom of Gauḍa (Bihar and Bengal) ruled from the latter half of the eighth to the first half of the twelvth century A.D. by kings of the so-called Pāla dynasty; the post-Gupta art of Orissa, the earlier phase of which has recently been brought to light in the hill tracts of the Cuttack District.[1] The spirit that dominates the Pāla art and the post-Gupta Orissan art is the same spirit of *dhyāna* that animates the Gupta art; but there is a further straightening and stiffening of the pose. In the standing images produced by the Pāla school, there is a reversion to the erect posture of the early Mathura school. Another feature of the Mathura images of the Gupta period, representation of the folds of the drapery by conventional parallel lines, is also revived. The early Orissan school, on the other hand, adheres to the plain drapery and the inclined posture of the standing Gupta image of Eastern India with some modifications. In the Gupta standing image, the torso is slightly inclined one way throwing the weight of the body on one leg with the other leg slightly bent at the knee. In the standing Orissan image in the inclined posture the natural bend of the free leg is straightened.

Historians of Indian art generally distinguish the Gupta as the Classical and the post-Gupta art as the Mediæval Indian art. But as there is no breach of the continuity of artistic development between the Gupta and the post-Gupta periods, as there is between the Classical and the Mediæval art of Europe, such a nomenclature is misleading. The Gupta and the post-Gupta art that flourished till the Muhammadan conquest of Northern India at the end of the twelfth century A.D. together constitute the Mediæval art of India, the history of which may be sub-divided into the following epochs:—

	A.D.
(1) Gupta Art	400-600
(2) Early post-Gupta Art	600-900
(3) Later Mediæval Art	900-1200

This Indian mediæval art which, with some modifications, flourished for the long span of eight centuries was a great art, for it successfully gave expression to a great idea—the human conception of the divine as the all-knowing and the self-knowing One, and it profoundly influenced the Buddhist art of the Far East and the Buddhist and the Brahmanic art of the Indo-Chinese Peninsula and Java.

SCULPTURES OF KHICHING.

By Rai Bahadur Ramaprasad Chanda.

The sculptures discovered at Khiching, the ancient capital of Mayurbhanj, have already been briefly noticed in three earlier volumes of this Report[2] and

[1] Chanda, *Exploration in Orissa*, *Memoirs of the Archæological Survey of India*, No. 44.

[2] *A. S. I.*, 1922-23, pp. 224-228; *Ibid.*, 1923-24, pp. 85-87; *Ibid.*, 1924-25, pp. 111-113.

in an article published in the Journal of the Bihar and Orissa Research Society, Vol. XIII (pp. 131-136). Maharaja Pratap Chandra Bhanj Deo, the present ruler of Mayurbhanj, has erected a small Museum building on the site for the preservation of these treasures of art. The sculptures that were in pieces have been restored, as far as possible, by joining the fragments, and a considerable number of them exhibited in this building by Babu Achyuta Kumar Mitra, late Curator of the Museum. This note is intended to introduce to the readers some of the more important sculptures in their present restored state. The place of these sculptures in the history of Orissan art also demands reconsideration in the light of the early post-Gupta sculptures discovered in the hill tracts of the Cuttack district in Orissa.

The three over life-size standing images once belonging to the earliest and the biggest, the *baḍa deul* or 'great temple' of Khiching,—the images of Śiva (Plate X, Fig. 27), Rudra (Plate XI, Fig. 28) and Bhairava (Plate XLIV, *c*) are not in Kāyotsarga pose like the post-Gupta standing images of Bihar and Bengal, nor in highly conventionalised *tribhaṅga*, 'thrice-bent', pose of the later mediæval standing images found in the niches of the Śiva temples of Bhuvaneśvara,[1] but are in slightly inclined posture like the standing Bodhisattva images found on the Nalatigiri and the Udayagiri in the Cuttack district.[2] Therefore one may be tempted to assign these standing Śivaite images of Khiching to the same period as the standing Buddhist images of the hills, *i.e.*, the eighth and ninth centuries A.D. But though there is a unity of pose in the two groups of images, difference in other respects is no less striking. The nimbus of the three Khiching images is elaborately carved, whereas the nimbus of the early post-Gupta images on the hills mostly lacks decoration. The decorated nimbus of the Khiching image of Rudra (Plate XLIV, *h*) very closely resembles the nimbus of an image of the Buddha seated touching the earth from Ratnagiri now preserved in the Bungalow of the Sub-divisional Officer at Jajpur. The Nāgarī characters used in engraving the Buddhist creed on the back of this image are assignable to the eleventh century A.D. and the image itself should be assigned to the same period.[3] Another point of difference between the early post-Gupta images of the hills on the one hand, and our Khiching images on the other, is that whereas in the former the loin cloth reaches below the knees, in the latter, as in later mediæval Orissan images, it does not do so. I have already pointed out elsewhere the close resemblance of the style of decoration of the temple of Brahmeśvara at Bhuvaneśvara with the style of decoration of the stones used in constructing the *baḍa deul* or great temple of Khiching to which these and other beautiful sculptures found on that site undoubtedly belonged.[4] According to a stone inscription (now lost), the temple of Brahmeśvara at Bhuvaneśvara was built in the reign of king Uddyotakesarin of the Telinga dynasty of Orissa pro-

[1] Chanda, "Notes on the ancient monuments of Mayurbhanj," *J. B. O. R. S.*, Vol. XIII, 1927, p. 135, Plate 7; *Mem. A. S. I.*, No. 44, Plate VIII, Fig. 6.

[2] *Mem. A. S. I.*, No. 44, Plate II, Figs. 1 and 5; Plate III, Figs. 1 and 2; Plate V, Fig. 4; Plate VI, Figs. 1 and 3.

[3] *Mem. A. S. I.*, No. 44, p. 13, Plate V, Fig. 2.

[4] *J. B. O. R. S.*, Vol. XIII, pp. 134-135, Plates 3-5.

bably in the last quarter of the eleventh century A.D.[1] So the great temple of Khiching with the fine sculptures that decorated it should be assigned to about the same period. The master who designed these images must have known and drawn his inspiration from the older sculptures on the Cuttack hills. But he was an artist of independent outlook and therefore the images and figures of Nāgas and Nāgīs that once decorated the great temple of Khiching disclose a freedom of design and execution that is very rare in the field of Indian plastic art.

Among the sculptures at Khiching that restoration has rendered available for study, three other images, *viz.*, Durgā killing the demon Mahisha, dancing Śiva and dancing Gaṇeśa also deserve notice here. This image of Durgā, originally installed in one of the niches of the great temple, measures 4′ 6″×2′ 6″. Though most of her ten arms are badly damaged, the attributes they held may be determined from another image of Durgā (Plate XLIV, *e*) found at Haripur (Hariharpur)[2] in the Mayurbhanj State, the arms of which are in a better state of preservation. The face of the Khiching image of Durgā shows the goddess watching the last agonies of the demon calmly and even compassionately.

The dancing Śiva of Khiching (5′ 7″×2′ 9″), though partially restored, clearly indicates the spirit in which the figure was conceived. While the face shows absorption in meditation, the rest of the body is engaged in swift but dignified rotatory movement. In the Naṭarāja (dancing Śiva) are found in combination two different phases of the Brahman, or Supreme Being, as conceived by the Hindus; the *saguṇa* Brahman equipped with three *guṇas* or elements of Nature (*sattva, rajas* and *tamas*) that prompt all kinds of action, and the *nirguṇa* Brahman, who is above *guṇas* and therefore absolutely inactive in the mundane sense. Meditation expressed in the face of dancing Śiva symbolizes the *nirguṇa* phase of God, and the rotatory dance the *saguṇa* phase.

The dancing Gaṇeśa (4′ 5″×2′) belonging to this group is the finest specimen of the type known to me. His inclined elephant head, his lolling trunk holding a sweet ball about to be thrown into the mouth, his eight arms, his pot belly (*lambodara*), his heavy feet, all are moving in perfect harmony. Gaṇeśa is not an absent-minded dancer like his father Śiva, but is fully enjoying the sport himself.

JAMI MASJID, AGRA.

By Khan Bahadur Maulvi Zafar Hasan.

The Jami Masjid of Agra lies in the city to the west of the Agra Fort beyond the railway station of that name. It is a magnificent building constructed of brick in lime faced externally with red sandstone, and measuring 335′ 7″ by 282′ 3″. Standing on a raised platform, which contains a series of arched

[1] *Mem. A. S. I.*, No. 44, p. 21.

[2] The Bhañja Chiefs of Mayurbhanj transferred their capital from Khiching to Hariharpur probably early in the sixteenth century A.D. The ruins of Hariharpur (which was abandoned early in the nineteenth century) are now being excavated by the Archæological Officer of the State.

compartments on the north, south and east now rented as shops, the mosque occupies a commanding position and consists of an open courtyard surrounded on the north and south by arched *dalans* with flat stone roofs and by the prayer chamber on the west (Plate XLV, *b*). To the east also there were originally similar *dalans*, but they were dismantled together with the gateway on that side during the Mutiny of 1857 for strategic reasons. The gateways on the north and south are intact. The noteworthy features of the courtyard (Plate XLV, *b*), which is paved with red sandstone slabs, are a tank with a domed kiosk at each of its four corners and a modern marble fountain in the centre, and a cenotaph upon a grave which is assigned by local tradition to one, Miran Gharīb Shahīd.

The prayer chamber, which is two bays deep, has its eastern façade broken by five arches, the central one being much higher and deeper so as to represent half section of a dome. Internally the chamber is divided into 9 compartments: 4 in the front bay—two on either side of the central arch—and 5 in the inner bay corresponding to the above-mentioned compartments and the central arch. There is also a set of three small compartments at either of the north and south wings locally known as *Tasbīḥ Khānas*. All the nine compartments of the prayer chamber are covered with domed roofs. Three of these, namely, those in the centre and at the north-west and south-west corners are crowned by double domes: the rest are marked by raised *chabūtras*. The *Tasbīḥ Khānas*, which have stone jali screens in their outside walls to admit light and air, are double-storeyed, the upper storeys being occupied by arched recesses. The most interesting features of the *Tasbīḥ Khānas* are the *musallas*, reminiscent of the original pavement of the prayer chamber now replaced by plain red sandstone flags. These *musallahs* are of red sandstone outlined in black marble except in the north-west compartment, where they are of marble and suggest its reservation for royal use.

The west wall of the prayer chamber has five *Miḥrāb* recesses, one in each compartment opposite the archway on the east. They are quite simple except the central *Miḥrāb*, which is faced with marble and contains two Quranic inscriptions and the date 1057 A.H. (1647-48 A.D.) inlaid in black marble. A modern marble *Minbar* or pulpit stands immediately to the north of the central *Miḥrāb*. Save the inscribed central *Miḥrāb* and the red sandstone dado outlined in white and black marble, the prayer chamber inside is devoid of any ornamentation. There are, however, indications to show that originally the walls and ceilings were painted.

Externally, the frieze of the prayer chamber to the east is adorned with marble inlay in geometrical designs, and this decoration is continued up the minarets at the four corners of the central compartment and the domes, where, however, the inlay work consists of stripes arranged in herring-bone pattern. On the roof, the four corners of the prayer chamber are emphasized by domed chhatris, which are also repeated at the front corners of the surrounding colonnades, while a row of small domed kiosks surmounts the inner façade of both the prayer chamber and colonnades (Plate XLV, *b*). This method of decorating the roof with kiosks, it may be noted, is a distinctive feature of the mosques

of Agra and is also found at the Moti Masjid in the Agra Fort, and in the Dargāh of Shaikh Salīm Ghishti at Fathpur Sikri. The central arch is surrounded by a band of inscription in beautiful Naskh characters inlaid in black marble. It runs as follows:—

این مسجدیست شریف خدا پرستان روے زمین را و معبدیست منیف سعادت نشان عبادت
گزین را و منظریست نور افزا دیده وران عبرت آئین را و مسکنیست دلکشا عارفان حقیقت بین را
که بامر رفیع‌القدر نواب فلک جناب خورشید احتجاب عصمت قباب عفت نقاب سیده نساء زمان
صاحب نسوان دوران ملکه جهان مالکه گیهان ناموس‌العالمین اعز اولاد امیرالمومنین جهان آرا بیگم در
عهد سعادت مهد صاحب عصروالی دهر ظل ظلیل حضرت سبحان خلیفه بدیل ایزد منان باعث
امن و امان بادشاه هفت اقلیم برازنده تخت و دیهیم حارس ملک و ملت قامع جور و بدعت بادشاه
دین پناه شهنشاه خلق آگاه مظهر کرم و جود برگزیده حضرت معبود فرمان فرماے بحر و بر دادده عدل
گستر رافع لواے بر و احسان جهانبان ملک ستان مقنن قوانین رعیت پروري و پرورده نوازي ابوالمظفر
شهاب الدین محمد صاحبقران ثانی شاه جهان بادشاه غازي بمبلغ پنج لک روپیه که قریب هفتده هزار
تومان رائج ایران و بست و پنج الک خانی نافق توران باشد در عرض پنج سال صورت انجام پزیرفته
ایزد بے نیاز و دادار بے انباز این بناے رفیع را چون بیت المعمور پایدار و این اساس منیع را چون
کاخ فلک برقرار داراد و برکات و میامن آنرا بروزگار کرامت آثار بانی مبانی خیرات عامر مراسم
مبرات گرداناد تم فی سنه ۱۰۵۸ هجري

Translation.

"This is a noble mosque for God-worshippers of the whole world, an eminent place of worship for the blessed devotees, a sight increasing light in the eyes of the people beholding wonders, and a pleasant abode for saintly persons perceiving truth. By the sublime order of the Nawāb, enjoying rank as high as heaven, living in seclusion like the Sun, asylum of chastity, veiled with purity, princess of the women of the age, chief of the ladies of the time, queen of the world, mistress of the universe, honour of the world, most revered of the children of the Chief of the Faithful, (named) Jahānārā Begam, it was brought to completion in the auspicious reign of the lord of the age, the king of the world, the shadow of the Holy God, the excellent representative of the Munificent Lord, the cause of peace and security, the monarch of the seven climes, the ornament of the throne and crown, the protection of the country and Faith, the annihilator of tyranny and oppression, the king defender of the Faith, the emperor acquainted with truth, the centre of generosity and benevolence, the chosen of God, the ruler of land and sea, the dispenser of justice, the exalter of the standard of beneficence and kindness, the protector of the world, the conqueror of countries, the author of the laws for the good of the subjects and the well-being of the slaves, (named) Abu-l-Muzaffar Muhammad Shihābu-d-Dīn Ṣāhib Qirān-i-thānī Shāh Jahān Bādshāh Ghāzī, at a cost of five lacs of rupees, which are equal in value to seventeen thousand *Tūmāns* current in Irān, and twenty-five lacs of *Khānīs* [illegible] in Tūrān, in a period of five years. May the Powerful God and

the Peerless Administrator of justice preserve this magnificent edifice like the Ka'ba, and keep this grand structure safe for ever like the firmament, and perpetuate its blessings and benedictions in the beneficent reign of the founder of sacred buildings and the introducer of the laws of piety. Completed in 1058 Hijrī (1648 A.D.)."

As related in the inscription the mosque was constructed by the famous Princess Jahānārā Begam, the eldest daughter of the Emperor S͟hāhjahān and Mumtāz Maḥal, the lady of the Tāj. She was born in the year 1614 A.D. and died in the year 1681 A.D. She lies buried in a small grave in the Dargāh of S͟haik͟h Niẓāmuddīn in Delhi which is visited, with great enthusiasm, by numerous visitors.

The circumstances in which the Jāmi' Masjid of Agra was constructed are related in detail by Mulla Abdul Hamid Lahori in his well-known work, the *Bāds͟hāh Nāma* and the follwing is the translation of the passage[1] concerned :—

Translation.

" And also there was no congregational mosque (Jami Masjid) befitting the city. At the time, when the king, conqueror of countries, whose high aspiration is (ever) inclined to make things complete and rectify defects, returned from Daulatabad and filled the capital with happiness by the blessed arrival, foundation was laid opposite the gate of the fort, facing the Big Bazar, of an irregular octagonal market, 170 imperial yards in diameter, with fourteen compartments and verandahs at each of its greater sides and five shops at each of its lesser ones ; and it was ordered that on the west of the aforesaid market there should be erected out of the Emperor's own purse a strong and magnificent mosque, 130 imperial yards in length, with three domes on the west and 53 arches on the remaining three sides, and *aiwāns* and court 80 yards by 80 yards. Since the Nawwab, elevated as heaven, secluded as the Sun, veiled like celestial beings, princess of the people of the world, (named) Begam Sahib, whose laudable disposition is to hoard rewards for the next world and execute good deeds in this world, requested that this exalted place of worship and noble edifice for the performance of religious ceremonies, which perpetuates good memory and good reward (in the next world) might be built by her, it was ordered that the erection of this place of worship be completed by the servants of the court of that Royal Princess. Besides the buildings belonging to Her August Highness, a few houses of the inhabitants of the city were included in the mosque, and they were acquired, some by purchase at a cost of ten and fifteen times their real value and others in exchange of houses, thus making the owners satisfied."

The market noticed in the above passage was subsequently called Tirpolia Bazar on account of its triple gateways on the north and south, and was dismantled about the year 1873 to make room for the railway line and the Agra Fort Railway Station. This and other buildings originally attached to this mosque are shown in an old plan (Plate L) which I have been fortunate enough to obtain from the trustees of the mosque. According to an endorsement on it,

[1] *Bāds͟hāhnāma* published by the Asiatic Society of Bengal, Vol. I, Pt. II, p. 252.

the plan was prepared in the year 1251 A.H. (1835-36 A.D.) by one Shaikh Abdul Latif, who calls himself a mason artist. It also bears the signature of Mr. J. H. Boileau, after whom a quarter in the Agra Cantonment is still named as Boileauganj. According to a remark on the plan, the total area embraced by the mosque and the attached structures was 7 bighas and 10 Biswas. The subsidiary buildings included the following :—

(*a*) The Tripolia Bazar to the east of the mosque. The plan depicts this *bazar* as an irregular octagon with a set of triple gateways on the north and south. The gateways are not mentioned in the Bādshāh Nāmah by Mulla Abdul Hamid Lahori. There are also a few other differences and it may perhaps be assumed that the plan was altered as an afterthought. As stated above, the *bazar* has been dismantled and there now exists hardly any trace to indicate its former existence.

(*b*) An enclosure to the north of the mosque. To judge from the plan, this structure had a nearly triangular shape. It had an entrance gateway on the south and was divided into two halves, the one on the west being known as Pāigāh or a travellers' inn and the other as Khichṛī-Khāna, where food in the form of *khichṛī* was distributed free. Nothing is now left of this building.

(*c*) *Musāfir Khāna* to the west of the mosque. This was again a *sarāi* but was probably reserved for travellers of means, who did not want free supply of food. This building has also been dismantled and declared Nazūl property.

(*d*) Area to the south of the mosque. Here there were a *Takya* (Muslim cemetery), an *Akhāra* (wrestling ground), a well and the residential houses of the Mutawalli of the mosque, Shaikh Muḥammad Ramzānī. All these structures have now disappeared except the well, which supplied water to the tank of the mosque by means of a reservoir and an earthen pipe line, the remains of which are still traceable.

A NOTE ON TWO IMAGES FROM BANIPARA MAHARAJ AND BAIJNATH.

By Mr. Madho Sarup Vats.

BANIPARA MAHARAJ.

In Hanuman Kuti at Banipara Maharaj, District Cawnpore, is a well-preserved mediæval relief (36″×20″) showing Śiva and Pārvatī in embrace when Rāvana and other demons were in the act of shaking the mount Kailāsa (Plate XXXI, *h*). Under the lotus throne are to be seen Kārtikeya over a peacock on the extreme right, a lion, the *vāhana* of Pārvatī, a Śiva-gaṇa and Gaṇeśa. At the extreme left is Nandī. Behind Nandī and Kārtikeya are two attendants. Śiva has four hands. The upper right is broken, the lower right is in the *abhaya* pose, the upper left holds the trident, and the lower left arm holds

Pārvatī in embrace. Pārvatī, who is seated in the left lap of Śiva, has thrown her right arm in fright round the neck of Śiva while in her left hand she holds something, possibly a mirror, near the head. On the pedestal is depicted Rāvana with other demons engaged in lifting the mount. Rāvana has six hands: with the upper two, he is lifting the Kailāsa, in the middle ones he holds a sword and shield and of the lower ones, the left is placed on the knee for extreme exertion while with the right he has pulled down a demon by the leg. In the upper field, on lotus seats, are Brahmā to the proper right and Vishnu to the left. At the top is shown a platform with a row of five *liṅgas*. All the figures depicted show distinct movement and the sculptor has succeeded in imparting to them a touch of realism. The sculpture is said to have been found in the course of digging an irrigation channel at the eastern foot of a mound in this locality.

BAIJNATH.

In a room of the *dharmaśālā* attached to the temple at Baijnath, District Kangra, I found a rare Jaina image, measuring 20″×13″. It is somewhat mutilated but the subject can be made out. In the centre, under a canopy, is seated, cross-legged, in the *dhyānamudrā* attitude, the naked figure of the seventh Jina, Supārśvanātha, on a *siṁhāsana,* indicated by two lions seated back to back. Below the Jina is his cognisance (*lāñchhana*) *svastika.* He is supposed to have descended for incarnation from the *Madhyamagraiveyaka vimāna* (heaven) and was born and consecrated at *Vārānasī* (Benares). He was the son of Pratishṭharāja by Prithivī. Like the 23rd Jina Pārśvanātha, he also has, according to the Digambaras, a similar group of snake-hoods which may be seen behind his head. In the upper field on either side are two seated Tīrthaṁkaras. The Jina wears a bracelet and has no *yaksha* or *yakshī* attendant. In place of the latter, we find Chandraprabha, the eighth Jina, to his proper right, indicated by his cognisance, the lunar crescent, and Vāsupūjya, the twelfth Jina to his proper left indicated by his cognisance, the buffalo. Both Chandraprabha and Vāsupūjya are haloed. The sculpture belongs to the early mediæval period.

A MANUSCRIPT OF A RARE PERSIAN VERSION OF MITĀKSHARĀ.

By Mr. Q. M. Moneer.

In the Library of the Asiatic Society of Bengal there has long been known to exist a manuscript (at one time considered unique) of the Persian version of Mitākshara, the well-known commentary of Vijñāneśvara on Yājñavalkya-Smriti. This manuscript was written in 1242 Hijra corresponding to the year 1826 A.D. by some unknown scribe in Persian characters of illegible *shikasta* variety. The writing is so bad that even the learned cataloguer failed to ascertain the name either of the author of the original work or that of the translator beyond the word 'Mitākshara' which is written in fairly bold characters

on the cover.[1] It is only lately that another manuscript of the Persian translation of the Mitāksharā has come to light in the archives of the library of the Jāmia' Milliya Islamia at Qarol Bagh near New Delhi. This manuscript covers 412 pages, each 11″×8½″ in size. The paper used is of medium texture but of mixed tone varying from yellowish white to light brown, and, being written in legible *nasta'līq* Persian characters, offers clear and easy reading. Its scribe—Sayyid Kalam-ud-Din Shah Qadri of Farrukhabad (U. P.) supplies his name in the colophon where he remarks that he undertook the copying of the book at the instance of one Qazi Ghulam-Mohyud-Din Khan, Superintendent of the Civil Judge's Court at Farrukhabad, and brought it to an end on 9th Rabī'-al-awwal, 1263 H. (14th February 1846 A.D.). The pages of this manuscript bear evidence of the silent depredation of insects with the result that. while every single page of the manuscript is in its place, quite a number of words have lost their identity, which may only be made out with intelligent reference to the context. The scribe has brought a very poor standard of care and accuracy of spelling to bear on his work. Mis-spellings and mistransliterations abound in every page, and many words have been copied in vague forms. To give only a few instances, words like نراهي , معجب , نربيت and سمت are written as صاهی مصحب , تربيب and ششم respectively. The very name of the book 'Mitāksharā' in the hands of this scribe puts on the curious Persian garb of سب اچهرا, which, shorn as it is of any diacritical points, can not be readily identified with its Sanskrit counterpart. The words 'Yājñavalkya Smṛiti' similarly are reproduced in Persian characters as سمرت جاك بلك while the name Vijñāneśvara simply reads بگیانر. Blunders so gross as these indicate that the scribe of the manuscript was totally ignorant of Sanskrit words and that the manuscript of the copy from which he took down his own was perhaps more illegible than he could read with better accuracy. It is not impossible that the present manuscript was copied from the translation now preserved in the library of the Asiatic Society of Bengal, which was written 21 years earlier.

Allowing due margin for the scribe's errors of omission and commission which necessarily disfigure and distort the sense of many passages, the literary standard of the Persian translation is not, on the whole, inelegant. At places the translator has attempted to rise to those heights of fantastic rhetoric characteristic of the writers of Persian works in the days of Muslim ascendency in India. Fortunately such embellishments are found only in the translator's own Preface and not in the translation proper, which is rendered in simple words. The 'Preface' supplies a number of informative details about the translator, namely, his parentage, birth place, the time, and the reason for his producing a Persian version of Mitākshara. As vouchsafed by himself, the name of the translator was Lal Bihari, son of Rai-har-Rai Kahaid Singh of Bhojpur in the Shahabad-Kanauj District of the province of Akbarabad. A civil retainer in the service of one, Nawab Allah Vardy Khan, who was a dignitary of the court of emperor Aurangzeb, Lal Bihari took advantage of the

[1] *Catalogue of Persian Books and Manuscripts in the library of the Asiatic Society of Bengal*, compiled by Shamsu-l-'Ulama Mirza Ashraf Ali, 1904, p. 178, No. Pb. [illegible]

growing popularity of Persian literacy among the Hindus of his day, and with the help of a Sanskrit scholar by name Sobhāskar Pandit, resident of village Islamabad also called Manjholi in the Gorakhpur district of the province of Oudh, translated Vijñāneśvara's Mitākshará from Sanskrit into Persian in the year 1068 H. corresponding to the year 1657 of the Christian era. He undertook this task to enable such Hindus as did not read Sanskrit, to study and follow their ancient laws in the popular language of the day.

While mentioning the growing interest of the Hindus in Persian literature, the translator Lal Bihari finds occasion to pay a rich tribute of praise to the reigning emperor Aurangzeb in the following words:—

اکنون که درین عهد بادشاه ، خلافت پناه ، عادل ، مظفر ، موئید ، ظل‌الله ، سلیمان بارگاه ، مظهر
الطاف الهی ، مطلع انوار بادشاهی ، مجسم داد و کرم ، قامع آثار جفا و ستم ، برداشته حضرت منان
گماشتهٔ ایزد سبحان ، خورشید برج خلافت ، مشتری آسمان سلطنت ، ظل ظلیل سبحانی ، واسطهٔ
انتظام انسی و جان ، شیرازه نسخهٔ اسلام - ماحی بدعت کفر و ظلام ، مالک هفت اقلیم ، زینت
افزائے تخت و دیهیم - وارث ملک سلیمانی ، فروغ دودمان صاحب قرانی ، خسرو فلک اقتدار ، بادشاه
خورشید اشتهار ، سلطان بن سلطان ، خاقان زمین و زمان ، معجب فرمانروایان حال و ماضی ، ابوالمظفر
محی‌الدین محمد اورنگ زیب بهادر عالمگیر بادشاه غازی ، خلدالله ملکه و سلطانهٔ که دورش چون
دور قدح پُر نشاط ، و زمانش مانند ایام شباب پر سرور و انبساط ، روز بازار فضل و دانش است -
هندی نژادان فارسی دوست را میل خاطر بنظم و نثر از حد بیشتر است -

Translation.

"Now that in the reign of this king, the asylum of Caliphate, the just, the triumphant. the helper, the shadow of God, his court like Solomon's, the manifestation of Heavenly favours, the source of the rays of royal splendour, embodiment of justice and munificence, subduer of the signs of iniquity and oppression, exalted of the Beneficent Lord, appointed of the Most Holy, the Sun of the zodaic of monarchy, the Jupiter of the heaven of government, the shady garden of Divine delight, the means of the discipline of mankind, the band of the book of Islam, the obliterator of the heresies of infidelity and darkness, the master of the seven climes, the adorner of the throne and the crown, the heir to the kingdom of Solomon, the lustre of the house of the lord of the happy conjunction, (*i.e.*, Shāhjahān), the monarch of heavenly dignity, the king with the clearness of the Sun, Sultan Son of sultan the overlord of space and time,, the wonder of the past and the present rulers, Abu-'l-Muzaffar Mohī-ud-Dīn Muhammad Aurangzēb Bahādur 'Ālamgīr Bādshāh Ghāzī, may God perpetuate his realm and rule, whose time moves like the motions of a cup brimming with joy, and whose age like unto the time of youth abounds with happiness and delight, when virtue and learning are flourishing fast, and Indian born lovers of Persian show more than much liking for [the study of] poetry and prose.

The translator's introduction of the subject of the Mitākshara together with the name of the author of the original Smriti of which the Mitākshara is a com-

mentary, as well as the reason why Vijñāneśvara wrote that commentary. are set fourth in these beautifully concise terms :—

این نسخه ایست در احکام و اوامر مناهی (نواهی؟) مذهب هنود - در اصل مصدف این نسخه جاک بلک (ئجنه و لکیه؟) نام کسبریست (یگیشریست؟) که این لآلی آبدار را در رشتهٔ اشلوک کشیده به سمرت جاک بلک (ئجنه و لکیه؟) مشهور ساخت - از انجا که طبعی بلند و فهمی عالی داشت قدد - الفاظ و دقائق معانی بخوبی سرانجام داد که درک دشوار فهمان بغور آن کمتر رسیدنی و دامن دریافت از جواهر مقصود تهی ماندے - کسائین بگیانیسر (گوشائین و جنانیشور؟) بصوابدید عقل خدا داد و بمقتضائی خیر اندیشی و فیض بخشی جمهور انام و آسانی زود فهمی خاص و عام شرح ترتیب داده ید بیضائی نمود -

Translation.

"This book (*viz.*, Yājñavalkyasmriti) treats of permissive and prohibitive injunctions of the Hindu faith. In reality its author is a Yogīśvara, by name Jak Balak (Yājñavalkya) who having drawn these lustrous pearls in the string of verses (*ślokas*), published them under the name of Jak Balak (Yājñavalkya) Smriti. Because of his noble mind and high intelligence, he has confined subtle meanings in the prison of words, in a manner that even the understanding of the sharp-witted could least get at their purport and (consequently) the skirt of their perception remained void of the desired gems, Gosain Vijñāneśvara with the concurrence of his God-given wisdom, by the sense of his good will and benevolence for the masses, and to facilitate quick apprehension by high and low, has by editing it with a commentary worked a miracle like that of the White Hand (of Moses)."

His own reasons for undertaking the translation of the Mitāksharā from Sanskrit into Persian read as follows :—

اگرچه در زمان پیشین اکثر کتب هند به ترجمه فارسی درآمده چهرهٔ افروز دانش و بینش شده اند و بهره برائے هندیان سنسکرت نافهم سرانجام یافت - نهائینش کتابی که معارف و خصوصیات این ملت را تمسک بوے تواند بود بلباس فارسی نه درآمده - اگر این شمع محفل معانی یعنی والا نامه شنگرف (شگرف؟) مضمون فروغ بخش بزم فارسی گردد هر آئینه مشمر برکات حال و مال خواهد بود - لهذا بجهت فائده هندیان اشلوک نا فهم و جهانیان سنسکرت نادان یک هزار و شصت و هشت هجری برقوف سودهاسکر پنڈت که زاد و بومش پرگنه اسلام آباد عرف مچهولی توابع سرکار گورکهپور صوبه اودهه است بعبارت فارسی ترجمه نموده -

Translation.

"Although in, former times many Hindū books by being translated into Persian have brightened the face of knowledge and science, and much good has (thereby) accrued to those Hindus who could not read Sanskrit, there remain numerous books which hold fast the [illegible] of this faith, but have not yet appeared in the garb [illegible] . . lle of the con-

gregation of significances, that is this exalted book (the Mitāksharā) of rare contents, should become the bestower of splendour on the assembly of Persian (literature), it would in every way expedite moral and material blessings. For the benefit of those Hindus (therefore) who cannot understand the ślokas (Sanskrit verses), and for the good of (other) men of the world who are ignorant of Sanskrit, (the Mitāksharā) has been translated into Persian phraseology, in the year one thousand and sixty-eight Hijra (1659 A.D.), with (the help of) the knowledge of Sobhaskar Pandit whose birth place and home is village Islampur also called Manjholi in the Gorakhpur district of the province of Oudh."

After the translator's 'Preface' (from which the passages quoted above have been taken) follows the Persian rendering of the Mitāksharā which opens with the following broad outline of the arrangement of its contents :—

فہرست کتاب در بیان ہر سہ مقالہ :—

مقالہ اول — در اچار ادھیائی کہ آنرا بزبان عرب عبادت گویند مشتمل است بر بیست و نہ فصل -

مقالہ دوم — در بیوہار ادھیائی کہ عبارت از معاملات باشد بر چہل و پنج فصل قرار یافتہ -

مقالہ سوم — در پراشچت ادھیائی کہ آنرا کفارت خوانند متضمن است بر ہفتاد فصل -

Translation.

'Syllabus of the book in relation to each of its three parts :—

Part I—Āchāra Adhyāya—Rules of good conduct—which is called 'Ibādāt or pious works in the Arabic language comprises twenty-nine sections.

Part II—Vyavahāra adhyāya, *i.e.*, the rules of dealing with others—comprising forty-five sections.

Part III—Prāshchit adhyāya which is called laws of atonement contains seventy sections.

A UNIQUE MANUSCRIPT ON ASTRONOMY.

By Dr. M. Nazim.

In an obscure library attached to the Dargāh of Ḥazrat Shāh Pīr Muḥammad Shāh at Ahmadabad, I discovered a manuscript named *Ghurratu'z-Zījat* (Forehead of Astronomical Tables) by Abū Raihān Muhammad b. Ahmad al-Bīrūnī.[1] It is a very rare and unique manuscript and no other copy of it is known to exist in any of the libraries of the world. It is a translation into Arabic of a lost Sanskrit work on Astronomy named *Karaṇatilaka* written by Vijayānanda, son of Jayānanda of Benares. Al-Bīrūnī made this translation at the request of some friends who were interested in the study of astronomy. As the name *Ghurratu'z-Zījat* is mentioned in *Indica* (ii, 90), it is evident that this translation must have been prepared some time before al-Bīrūnī had completed his great work on India.

[1] Professor E. C. Sachau has wrongly made this work identical with *Kitābu'l-Ghurra* by Abū Muḥammad an-Na'ib al Āmulī. See Al-Bīrūnī's *India*, ii, 888.

Nothing is known about Vijayānanda and his work *Karaṇatilaka* except what is given by al-Bīrūnī in his brief introduction to the *Ghurratu'z-Zījat*. He says that *Karaṇatilaka* was composed in the year 888 of the Śaka era (A.D. 966), that Vijayānanda, "the commentator" was a scholar of great reputation, and that *Karaṇatilaka* was looked upon as a standard work on astronomy in India. Al-Bīrūnī held a high opinion of this book. He calls it "the first of the canons",[1] and reckons an era called "the era of the canon *Karaṇatilaka*"[2] from the date of its composition. He has made numerous references to *Karaṇatilaka*, and has given long quotations from it on the method of calculating the dominant of the hour;[3] on the *ahargaṇa* rule[4]; the method of computing the diameter of the sun[5]; the degree of the distance of a star which is necessary for its helical rising[6]; and the method of calculating the two unlucky *yogas* called *Vyatīpāta* and *Vaidhṛita*.[7]

The manuscript is not complete and a few leaves are wanting towards the end. It comprises 34 double folios of small and carelessly written Naskh. I give below a translation of the introduction to the *Ghurratu'z-Zījāt*:—

"In the name of Allah, the Beneficent, the Merciful.

This is the Zīj of Bajyānand al-Banārsī which he named *Karaṇatilaka*, and its meaning is 'Forehead of Astronomical Tables'. The preceptor Abu'r-Raiḥān Muhammad b. Ahmad al-Bīrūnī says, 'I found in India a small and brief *Zij*, composed by Bajyānand, son of Jayānand who was one of the commentators in the town of Benares. It was looked upon with respect by the people of his persuation. It was named *Ghurratu'l-Azyāj* (Forehead of Astronomical Tables). Some of our friends wanted its translation into Arabic with the desire of acquiring knowledge. So I hastened in the dissemination of good among its worthy seekers, and translated it, appending to it some reasons to make its argument clearer, but did not add to it anything except a few examples in order to facilitate acquaintance with it'. Below is the book in its original order.

"This is a book,[8] small in size but great in its benefits.................., composed by Bajyānand and completed in the year 888 of the Śaka era........".

A NEW METHOD FOR THE ARTIFICIAL PATINATION OF BRONZES.

By Dr. M. A. Hamid.

Ancient copper and bronze objects are usually covered with a blue or green crust commonly known as patina. This patina which is composed of the compounds of copper and of the metals alloyed with it, varies in thickness from a thin film to one several millimetres thick, the thickness depending upon the nature of the metal or the alloy, its age and place of inhumation. When fine, hard and uniform, the patina has preserved the original details in design and by its appearance adds much to the beauty of the object. In a large majority

[1] *Indica*, i, 343. [2] *Ibid.*, ii, [illegible] [3] *Ibid.*, i, 31[illegible] [4] *Ibid.*, ii, [illegible] [5] *Ibid.*, ii, 79. [6] *Ibid.*, ii, 90. [7] *Ibid.*, ii, 206-208.

[8] The translation of the *Karaṇatilaka* begins here.

of cases, however, this outer crust is soft, porous and unsightly and has to be removed by chemical or mechanical means in order to bring out the details underneath. Moreover, on account of its soft and porous nature, it tends to retain the saline and other constituents of the soil which led to its formation and which in the presence of moisture might gradually bring about the complete destruction of the object. Underneath the outer crust is usually found a thinner coating of the red oxide of copper which is in contact with the metal itself. Where all the metal is oxidised, there are only two layers, the outer crust and the inner layer of the red oxide of copper. In very badly corroded objects, the change has proceeded still further and all that is left of the object is a mass of blue or green which gives an idea of the shape of the object while all details of design, inscriptions, etc., have disappeared from it.

In order to impart a more pleasing appearance, attempts have been made from time to time to produce by artificial means, green or blue colour effects on the smooth metallic surface of the copper and bronze objects, exposed after the chemical or mechanical treatment, approaching, as nearly as possible in appearance, the fine, hard and protective patinas formed through natural agencies. Most of these methods involve the use of chlorine compounds, which, although producing beautiful effects, are open to serious objections. Atacamite, to which are generally attributed beautiful green effects, can only be produced by the judicious use of chlorine compounds, chlorine being an essential component of this basic salt of copper. It is not proposed here to discuss the various chemical reactions which are involved in the slow natural formation of this compound. Suffice it to say, that the chlorides bring about the gradual change and when other conditions are favourable, the gradual destruction of the object. Again, the causes of the so-called 'bronze disease', may not be fully known but it is certain that the chlorides play a very important part. It is sufficient to say here without going into the details of the subject that the use of chlorine compounds, in any form, should best be avoided.

Atacamite, being eliminated, recourse has to be taken to other basic salts of copper. Malachite, or the basic carbonate of copper, occurs in nature as such and is also found on the surface of antique copper and bronze objects. It has been suggested by some authors that the object in view would be secured by painting the object with this material. It is, however, both ugly and undesirable and is by no means so easy on statues and other works of art.

The action of moist carbon dioxide on copper is very slow. In the presence of ammonia, the reaction though comparatively quicker is still too slow for practical purposes. With an aqueous solution of ammonium carbonate, the rate of reaction is also very slow. The final products of reaction in this case probably are cupra-ammonium carbonates. The cupra ammonium or ammonium copper carbonate or carbonates are bluish green in colour. It was thought that these double compounds might split on heating. Small pieces of brass, therefore, on which bluish [illegible] patina [illegible] by means of a concentrated solution of ammonium carbo[illegible] [illegible]ated in an air oven. It was found [illegible] bluish tinge was [illegible]

green colours were produced. The transition temperature is roughly about 120° C.

After having found that it is possible to produce green colour on the surface of copper and bronze objects by means of an aqueous solution of ammonium carbonate and heating, it was thought that if we could, in some way, hasten this reaction, we should have an excellent method for producing artificial patina on the surface of copper and bronze objects. One such substance, in the presence of which this reaction proceeds very quickly and which has at the same time no injurious effect on the metal itself, is hydrogen peroxide. A concentrated solution of ammonium carbonate was applied to the surface of a piece of brass and a few drops of hydrogen peroxide solution added to it. Blue colour was immediately developed which on drying in air changed to bluish green and on heating to 120° C. to deep green colour.

A large number of experiments were carried out on pieces of old copper from Taxila and a few small bronze antiquities from Nalanda to find the most appropriate conditions which would give the best results. As a result of the experiment, the following method is recommended :—

The object to be patinated, after chemical treatment, is washed in repeated changes of water till it is quite free from foreign contaminations and undesirable impurities. It is finally soaked in distilled water and dried. The bright metallic surface or, if the metal is all oxidised, the red surface, due to cuprous oxide, is then painted with a concentrated solution of ammonium carbonate and hydrogen peroxide, which is applied by means of a camel hair brush as uniformly as possible. Blue colour is immediately developed which on drying in air changes to bluish green. The object is at first dried in air and then heated to 120° C. at which temperature it is kept for some time when the bluish tinge is lost and the object acquires a beautiful green colour. After cooling, it is impregnated with a dilute solution of cellulose nitrate in acetone or some other solvent. This helps to fix the colour and at the same time serves as a water proof coating.

The method described above requires practice but works very well otherwise. Experiments on larger objects are still in progress. The new process is quick, not very expensive and does not harm the object in any way. It will be remembered that patina is a sort of surface corrosion which, if it contains any harmful substance, might spread and gradually bring about the complete destruction of the object. In this process, the final product is free from any such injurious substances.

The quality and depth of the final shade depend upon the time, temperature and initial concentrations of the reacting substances and may be varied at will by adjusting these determining factors.

SECTION IX.—DEPARTMENTAL ROUTINE NOTES.

ANCIENT MONUMENTS PRESERVATION ACT AND LISTING OF MONUMENTS.

United Provinces.—(a) *Hindu and Buddhist Monuments.*—No new monuments were added to the List of Protected Monuments. Notifications of protection were withdrawn in respect of two temples at Barha Kotrah, District Banda and two temples at Simbhua and Beda-Bedeona in the Cawnpur District.

(b) *Muhammadan and British Monuments.*—Under Section 15 of the Ancient Monuments Preservation Act (VII of 1904) rules were framed and published by the Government of the United Provinces of Agra and Oudh for the observance of visitors to certain archæological monuments and gardens at Agra, *viz.*, (1) Agra Fort, (2) Taj Mahal, (3) Itimadu-d-Daula's Tomb, (4) Chini-ka-Rauza. (5) *Chhatri* at Zohra Bagh, (6) Akbar's Tomb at Sikandra, (7) *Chhatris* to the north of Ram Bagh, (8) Ram Bagh and (9) ancient palaces and buildings at Fathpur Sikri.

During the year under review no new monuments were declared protected either in the United Provinces or in Delhi while the notification of protection was withdrawn from an old cemetery at Chandpur in the Bijnor District of the United Provinces.

Punjab.—The Superintendent of the Hindu and Buddhist Monuments, Northern Circle, Lahore, reports that only two monuments have been declared protected under the Act, *i.e.*, (1) a small stone Saiva temple at Jagatsukh in the Kulu Sub-Division of the Kangra District and (2) a red stone temple in the Kashmirian style of architecture near village Sodhi Zerin, District Shahpur.

Frontier Circle.—Two Muhammadan monuments in the Punjab were declared protected, *viz.*:

1. the Mughal Bridge over the Buddhiawala Nala at Khwaja Sarai in Tahsil Ballabgarh of the Gurgaon District and
2. Sher Shah's Baoli at Wan Bhachran, Mianwali District.

A detailed account of the latter is given under Section II of this Report.

North-West Frontier Province and Baluchistan.—Only one monument in the North-West Frontier Province has been declared protected this year, *viz.*,

The ancient site containing the remains of a large *stupa* and monastery at Bhamala village in Haripur Tahsil of the Hazara District.

Bombay Presidency including Sind.—In the Western Circle six notifications were issued under the Ancient Monuments Preservation Act for the protection of ancient monuments in the Bombay Presidency. One of these relating to the protection of Azamkhan's Palace and the Mosque of Rajnsha Pir at Ranpur and the Tomb of Sikandar Shah at Piantij, all in the Ahmedabad District, was issued and confirmed during the last year. A second notification confirmed the protection of Nawab Sardar Khan's Rauza and a *masjid* with gateway in

the city of Ahmedabad, which had been declared in June 1928. The protection of the Hill Fort of Sion together with all ancient remains of Portuguese buildings attached to it, was declared in June and confirmed in September 1929. A fourth notification dealt with the protection of the whole length of the remains of the ancient Chalukyan city walls with other remains at Badami in the Bijapur District. Another notification under the Act confirmed the protection of the Caves and Inscriptions at the Nana Pass at Chatghar, District Poona, which had remained unconfirmed since July 1909. Yet another important monument which was finally accepted as a protected monument, was the interesting Temple of Sri Dattatreya with its isolated gateway at Chatargi, distant 34 miles from Bijapur. This building will be found described under Section "Conservation" above. A notification declaring the Temple of Bhuleshwar Mahadev at Yewat, Petha Dhond, District Poona, as a protected monument, was not confirmed up to the end of the last financial year. The notification relating to the protection of the Tomb of Khwaja Safar Sulemani at Surat was confirmed. Mention has also to be made here of two notifications issued under Section 20 of the Ancient Monuments Preservation Act to restrict and regulate excavations near Chhaba Talao at Dhond in the Panch Mahals District and at the remains of the ancient Jain Temples in the bed of the Bhadar river in the District of Ahmedabad.

Two cases of damage to ancient monuments occurred during the year. In one case two persons were found scraping the metal from the Malik-i-Maidan Gun at Bijapur. They were prosecuted and fined Rs. 5 each. In the other case four men of the Criminal Tribes Settlement at Bijapur had stolen a few stones from the ancient city wall. In view of the small value of the material removed, they were dealt with departmentally by the Tribes Settlement Department and fined Rs. 3 each and shut up for one day.

Bihar and Orissa.—Notification for protection was withdrawn in respect of one monument only, *viz.*, the Buddhist *stupa* at Kesaria, District Champaran, with a view to acquire the site for the purpose of exploration.

Central Provinces.—The following five monuments were removed from the List of Protected Monuments, as they did not possess sufficient archæological interest :—

(1-2) the badly ruined mediæval temple called Jogi Mandir at Madanpur, near Dhipur, and the old Court House of Ala Udal situated near Kumgarh, north Karola, both in the Balaghat District,

(3) the old cave-temple of Mahadeo at Bhopali in the Betul District,

(4) the modern temple of Mahadeo and the dilapidated temple of Khaoliadeo at Kudholi in the Chanda District and

(5) the small ruined temple of Mahadeo at Thanegaon in the same district.

On the recommendation of the Archæological Department the local Government declared the following ancient monuments at Raverkhedi in the Nimar District as protected under the Ancient Monuments Preservation Act :—

1. Vrindavana [illegible] Baji Rao Peshwa.
2. the Mahadeo temple,

3. the Main Gate and the existing portion of the Peshwa's Residence or Fortress,
4. the Mahadeo platform on the funeral ground,
5. the Horse and Elephant platforms and
6. the Chhattri inside the Sarai.

Assam.—In the Eastern Circle the notification of protection with regard to the four groups of monoliths namely :—(1) Derebara group, (2) the Khartong group, (3) the Boloson group and (4) the Kobak group in the North Cachar Hills of the Cachar District, Assam, was confirmed on the 11th July 1929 (*vide* Notification No. 1588-E, *Assam Gazette*). These monuments have been accepted as a Central Government charge.

PUBLICATIONS.

The following publications were issued by the Department during the year 1929-30 :—

1. *South-Indian Inscriptions, Volume III, Part IV.*—Copper-plate grants from Sinnamanur, Tirukkalar and Tiruchchengodu (N. I. S., Vol. LIII) by Rao Bahadur H. Krishna Sastri.
2. *Antiquities of Sind with an Historical Outline* (N. I. S., Vol. XLVI) by H. Cousens.
3. *Memoir No. 35—Excavations in Baluchistan, 1925, Sampur Mound, Mastung and Sohr Damb, Nal,* by H. Hargreaves.
4. *Memoir No. 39—Lha-lun Temple Spyi-ti,* by H. Lee Shuttleworth.
5. *Memoir No. 40—Pallava Architecture, Part II (The later or Rajasimha Period),* by A. H. Longhurst.
6. *Memoir No. 41—Survival of the Prehistoric Civilisation of the Indus Valley,* by Rai Bahadur Ramaprasad Chanda.
7. *Catalogue of the Coins in the Indian Museum, Calcutta, including the cabinet of the Asiatic Society of Bengal, Vol. IV, Native States,* by John Allan.
8. *Epigraphia Indica, Vol. XIX, Parts 5 and 6,* edited by Dr. Hiranand Sastri.
9. *Epigraphia Indo-Moslemica for 1925-26,* edited by G. Yazdani.
10. *Guide to the Buildings and Gardens in Delhi Fort,* Third Edition.
11. *Appendices to the Annual Report of the Archæological Survey of India for 1926-27.*
12. *List of the Protected Monuments accepted by the Government of India,* corrected up to September 1928.
13. *List of Archæological Photo-negatives of the Madras Presidency stored in the office of the Assistant Archæological Superintendent for Epigraphy, Southern Circle, Madras, corrected up to 31st March 1928,* by G. V. Srinivas Rao.

PHOTOGRAPHS.

Director General of Archæology.—In the office of the Director General of Archæology in India 676 photographic negatives were prepared in the course

of the year under review. Out of these 131 relate to deep diggings made and antiquities recovered at Taxila, 14 to the new acquisitions at the Central Asian Antiquities Museum, New Delhi, 23 to the monuments at Agra, 23 to Harappa finds, 10 to excavations at Sirar in Khairpur Mir in Sind and 24 to miscellaneous objects including the mosaics of Panduah, pottery from Rupar (Ambala District) and to other subjects. Of the remainder, 258 plates were devoted to excavations carried out and portable antiquities found at Mohenjo-daro, while 150 others were taken to illustrate an account of an exploratory tour in Sind. Prints of all these negatives were pasted in the albums maintained in the Director General's Office together with 1665 additional prints received from the Circle Offices. A sum of Rs. 648-8-3 representing sale-proceeds of photographs sold to the public was credited to the Government Treasury.

Northern Circle, Agra.—One hundred and ninety-four negatives were prepared in the office of the Superintendent, Muhammadan and British Monuments, Agra. Out of these 30 relating to the monuments at Datia were prepared at the instance of the Director General of Archæology; 4 were of the exhibits in the Central Asian Antiquities Museum, Delhi, 10 of the Hindu sculptures and temples at Muttra, 6 of paintings in the Delhi Fort Museum, 15 of the plans of ancient buildings at Delhi while the remaining 129 were taken in connection with conservation works in the United Provinces and Delhi.

Northern Circle, Lahore.—Altogether 184 new negatives were prepared, of which 104 relate to the excavations and antiquities at Harappa and the rest to the various monuments in the Punjab and the United Provinces. About 900 prints were prepared during the year, out of which 190 were supplied gratis to officers of the Department and 138 sold to the public for Rs. 138-8-0.

Frontier Circle.—Altogether 95 negatives were exposed during the year. Out of these 75 were prepared in connection with conservation works, 4 to illustrate Sher Shah's Baoli at Wan Bhachran, 5 to illustrate the Jahaz-Mahal at Shujabad and 11 to reproduce the inscriptions of the Multan monuments as requisitioned by the Government Epigraphist for Moslem Inscriptions, to whom estampages of these inscriptions were also supplied. Seven photographs of fresco paintings were supplied on loan to the Secretary, British Indian Union, London, for exhibition at the rooms of the Society and 17 photographs of the monuments in Lahore were sent to the Punjab Information Bureau for the London County Council for the preparation of lantern slides. Three hundred and forty-six prints were supplied to the officers of the Department free of cost and 49 were sold to the public for which a sum of Rs. 37-2-0 was realised.

Western Circle.—In all 226 negatives and 606 prints were prepared. Of the latter, 351 were supplied to the Director General of Archæology. The sale-proceeds of the photographic prints supplied to the public amounted to Rs. 10-2-3. The new negatives included nine of the interesting early caves at Kondane, [illegible] and 26 of the fortress at Jhinjuwada in Kathiawar, which [illegible] century A.D. This fortress has been described in

the *Antiquities of Kathiawar and Kachh* by Burgess, but the monument had never since been visited by any officers of the Department.

Central Circle.—Of the 263 photographs taken during the year, 139 were of the monuments in Bihar and Orissa and the remaining 124 of those in the Central Provinces. Among the former the principal ones refer to the excavations at Nalanda and the conservation work at the Mughal monuments at Rohtas Fort and the Jami Masjid at Hadaf near Rajmahal, and to a bell-shaped capital of a pillar found at Bhuvanesvar. In the Central Provinces, photographs were taken of the conservation work carried out at Narnala and Ellichpur, several monumental remains and the prehistoric paintings on a rock at Hoshangabad.

Thirty-three photographs were supplied to the public and 517 to officers of the Archæological Department. Three estampages of inscriptions were prepared and sent to the Government Epigraphist for India for decipherment.

Eastern Circle.—Three hundred and ninety-eight negatives were added to the existing collection of photonegatives stored in the office of the Superintendent. Of these, 304 were prepared in connection with excavation and conservation operations at Paharpur, District Rajshahi; 51 relate to places of archæological interest in Bengal and 43 to such places in Assam. In all, 49 prints were supplied to the public on payment, and 9 to the officers of the Department and outside scholars.

Southern Circle.—One hundred and eleven photographic negatives were prepared during the year.

Burma Circle.—One hundred and twenty photographic negatives were added to the collection. They consist of different views of ancient sites where excavations were made during the year, and of objects discovered therefrom. They also include photographs of fresco paintings found in some of the old monuments at Pagan and of inscriptions found during the year.

Indian Museum, Archæological Section.—Forty-six negatives were prepared during the year.

DRAWINGS.

Director General of Archæology.—The two permanent draftsmen of the Director General's office assisted by one temporary draftsman prepared fifteen drawing plates for publication in Sir John Marshall's "Mohenjo-daro and the Indus Civilization." The services of another temporary surveyor were engaged for about 6 months for preparing six working drawings of the excavations carried out at Sirkap during the year under review. In addition to the above, a few tracings were also made.

Northern Circle, Agra.—The two temporary draftsmen, who have been employed for the survey of ancient monuments in the United Provinces prepared 15 pencil [illegible] the Taj and inked 5 plans pertaining to [illegible] The Head and the Assistant Draftsmen w[illegible]ns and drawings in connection with conserv[illegible] and Delhi.

Northern Circle, Lahore.—Owing to excess of photographic work during the last few years, the second draftsman-photographer had to devote his time entirely to photography. The draftsman alone prepared 10 drawings of the excavations carried out at Harappa during the year.

Frontier Circle.—Thirty drawings were prepared, the majority of which were in connection with the lay-out of the Lahore Fort and other conservation works in the Punjab. Four drawings of the design for new *chhatris* proposed to be erected on the *minars* of the Badshahi Mosque at Lahore were also prepared.

Western Circle.—In addition to the several working drawings required in connection with the conservation of monuments, three new record drawings of the Hindu and Jain temples in the Fort at Belgaum were prepared, as the drawings already existing on the record of this office had been found to be inaccurate and wanting in many details.

Central Circle.—The drawings made during the year were mostly of the remains excavated at Nalanda. Besides these, 29 drawings which had remained unfinished were completed by the draftsmen.

Eastern Circle.—Fifteen drawings were prepared during the year, all of which relate to the excavations carried out at Paharpur.

Southern Circle.—Seventeen drawings and four tracings were prepared during the year under report.

Burma Circle.—Eight fresh drawings were prepared of small Buddhist images and other objects discovered in the course of excavations. Drawings were also prepared, to reduced scales, of some of the principal temples at Pagan, of which drawings to larger scales already existed in the office.

PERSONNEL.

Mr. H. Hargreaves continued to officiate as Director General of Archæology and Rai Bahadur Daya Ram Sahni as Deputy Director General for Exploration. Mr. J. A. Page held charge of the Central Circle till the 22nd April 1929, when he was appointed as Deputy Director General of Archæology in the vacancy caused by Mr. J. F. Blakiston proceeding on leave and Mr. N. G. Majumdar officiated as Superintendent in that Circle from the date of Mr. Page's transfer till the 9th May 1929, and Mr. Muhammad Hamid Kuraishi from that date till the 2nd January 1930, then making over charge to Mr. B. L. Dhama and reverting as Assistant Superintendent. Mr. N. G. Majumdar officiated again as Superintendent, Eastern Circle, from the 12th May to 16th July 1929 in the leave vacancy of Mr. K. N. Dikshit. Mr. E. J. H. Mackay went on leave on average pay for six months and two days with effect from the 29th March 1930, and Mr. H. L. Srivastava, who was appointed Assistant Superintendent, Archæological Survey, took over charge as Special Officer for Exploration during his absence. Khan Bahadur Maulvi Zafar Hasan held charge of the Frontier Circle till 9th December 1929, and on [illegible] Mr. Blakiston on his return from leave was transferred as Superintendent, [illegible] Muhammadan and British Monuments, relieving Mr. Dhama [illegible] Central Circle.

Dr. M. Nazim was appointed Assistant Superintendent, Archæological Survey, and posted to the Western Circle. Dr Mohammad Abdul Hamid was confirmed from 20th June 1929 as Assistant Archæological Chemist on completion of his two years' probation and was granted leave for six months from 21st December 1929. Mr. K. V. Subrahmanya Aiyar was granted leave on average pay for four months from the 19th May 1929, but returned to duty on 6th August 1929. Mr. C. R. Krishnamacharlu officiated for him while Mr. Aiyar was on leave and acted also as Government Epigraphist for a short period when Dr. Hirananda Sastri took leave for four months with effect from 16th January 1930. Mr. Q. M. Moneer was appointed Curator, Central Asian Antiquities Museum, New Delhi, with effect from the 27th May 1929 in place of Mr. F. H. Andrews who retired on 20th March 1929.

APPENDIX I.

List of Exhibits other than coins acquired for the Indian Museum, Archæological Section, during the year 1929-30.

PURCHASED.

1. (8200).—Portrait of Shah Jahan $11\frac{4}{5}'' \times 7\frac{3}{5}''$.

2. (8207).—A Ghotf (Compass) with Persian writings. From Shiraz in Persia.

3. (8208).—A grey sandstone image of a four-armed Śiva in *abhaya-mudrā*, holding *triśūla*, deer and vase; 7th or 8th century A.D. From Benares. $2'4\frac{1}{2}'' \times 1'1''$.

4. (8513).—A grey sandstone image of a two-armed seated goddess broken in two pieces; *circa* 17th century A.D. From Nagina, District Murababad, U. P. $9'' \times 6''$.

5. (8515).—A four-armed seated figure of Annapūrṇā of white marble stone; 16th or 17th century A.D. From Benares. $19\frac{1}{2}'' \times 11''$.

6. (8516).—Marble stone figure of Mahishamardinī; 16th or 17th century A.D. From Benares. $13\frac{1}{4}'' \times 10\frac{1}{4}''$.

7. (8517).—Black stone slab bearing images of Śiva and the seven Mātṛikās; *circa* 15th century A.D. From Benares. $2'10'' \times 6\frac{1}{2}''$.

8. (8518).—Black stone figure of the Sun-god seated on a chariot with one wheel and four horses; *circa* 15th century A.D. From Benares. $6\frac{1}{2}'' \times 5''$.

9. (8519).—Sandstone figure of Lakshmī-Nārāyaṇa; 15th or 16th century A.D. From Benares. $13'' \times 8''$.

10. (8520).—A figure of seated Buddha in preaching attitude; 12th century A.D. From Benares. $8'' \times 6''$.

11. (8521).—Bust of a sandstone figure of Kṛishna under *Kadamba* tree; 5th or 6th century A.D. From Benares. $2'2\frac{1}{2}'' \times 1'8''$.

12. (8522).—Square sandstone slab bearing the representation of a full blown lotus. 6th century A.D. From Benares. $1'3'' \times 1'5'' \times 4\frac{1}{2}''$.

13. (8523).—A square sandstone slab bearing a symbol. From Benares. $9'' \times 8'' \times 2\frac{1}{2}''$.

14. (8524).—A sandstone figure of the Sun-god. 13th or 14th century A.D. From Benares. $8\frac{1}{2}'' \times 5\frac{1}{2}''$.

15. (8525).—A stone slab bearing the figures of Lakshmī and Nārāyaṇa. 17th century A.D. From Benares. $7\frac{1}{2}'' \times 4\frac{1}{2}''$.

16. (8526).—A stone slab bearing a four-armed female figure; 13th century A.D. From Benares. $1'2'' \times 7''$.

17. (8527).—A sandstone slab bearing on one side in a niche an image of the mother Maheśvarī and on the other a standing figure of Lakshmī with elephant pouring water over her; 11th century A.D. From Benares. $2'5'' \times 1'1\frac{1}{2}''$.

18. (8528).—A stone figure of Sun-god seated on a chariot with one wheel drawn by four horses; 15th or 16th century A.D. From Benares. $4\frac{1}{2}'' \times 3\frac{1}{2}''$.

19. (8529).—A sandstone slab bearing two figures of Śiva on two sides of a pilaster; 12th century A.D. From Benares. $17\frac{1}{2}'' \times 16\frac{1}{2}''$.

20. (8530).—Copper-plate grant of the *Mahāmaṇḍalika* Dharmakhedi of the Eastern Kadamba dynasty.

PRESENTATIONS.

Treasure Trove bronze Bud[illegible] antiquities from [illegible] in the Chhittagong District [illegible] the Government of Bengal.

21-29.—(8146-8148, 8188-8191, 8193-8194).—Standing images of Buddha varying in height from 12" to [illegible]

30-60. (8141-8145, 8149-8151, 8153-8171, 8174-8176, 8192).—Seated images of Buddha in various attitudes varying in height from $15\frac{1}{4}''$ to $2\frac{1}{8}''$.

61. (8184).—Standing Bodhisattva. Ht. 11″.

62-66. (8181, 8183, 8185-8187).—Seated images of Bodhisattva varying in height from 4″ to $2\frac{1}{2}''$.

67-68. (8172, 8173).—Group of three Buddha images (Miracle of Śrāvastī). Ht. $7\frac{1}{2}''$ and 5″.

69. (8152).—Seated Buddha in earth-touching attitude attended by Maitreya and Avalokiteśvara. Ht. $6\frac{1}{2}''$.

70. (8182).—Seated image of Tārā. Ht. $2\frac{7}{8}''$.

71. (8197).—Miniature votive stupa. Ht. $5\frac{1}{8}''$.

72. (8198).—Miniature votive temple. Ht. 15″.

73-79. (8177-8180, 8195-8196, 8199).—Miscellaneous fragmentary pieces.

Presented by Babu Ram Charan Chatterjee through the Collector of Bakarganj.

80. (8201).—Seated stone image of Avalokiteśvara with an inscription on the back; 11th century A.D. From Khalisakota, P. S. Banoripara, District Bakarganj. $3\frac{1}{2}'' \times 2''$.

Presented by Mr. W. J. Burnand, Manager of the Midnapore Zemindary Co., Ltd., Barabhum Concern, Barabhum, Manbhum.

81. (8202).—A stone image of the Sun-god; 11th century A.D. From Manbhum. $4' \times 1'8\frac{1}{2}''$.

82. (8203).—A stone image of the Jina Ṛishabhanātha with standing figures of 24 Jinas on two sides; 12th century A.D. From Manbhum. 3′8″× 1′10″.

Presented by Rai Bahadur Mrityunjay Roy Choudhury, Zemindar, Sadyapushkarni, Rangpur.

83. (8209).—Arabic inscription recording the building of a mosque in the reign of Sultan Alauddin Husain Shah of Gaur. From Rangpur District. $16'' \times 7\frac{3}{4}''$.

Presented by Sasanka Sarkar, Esq., B.Sc.

84. (8211).—Neolithic stone implements. From Simlong, Rajmahal Hills.

Presented by Maharaj Kumar Samarendra Chandra Deo Barman Baḍa Thakur Bahadur of Tripurā.

85. (8514).—Jina Ṛishabhanātha. From Kosam, Allahabad District, U. P. 2′9″×1′7″.

On Loan from the Director General of Archæology in India.

86-102. (8117, 8118, 8120-8126, 8129, 8131-8135, 8137, 8140).—McMahon collection of Gandhāra sculptures.

103-105. (8136, 8138, 8139).—Mediæval fragments from Bundelkhand acquired from Col. McMahon.

106-108. (8119, 8128, 8130).—Gandhāra sculptures acquired from Dheri Shahan near the site of Taxila.

109. (8127).—Gandhāra sculpture from Buner site presented by Sir John Marshall.

110. (8204).—Terracotta elephant. From Muttra. [illegible]

111. (8205).—Bust of a female figure with heavy ear-rings. From Muttra. $2\frac{3}{8}'' \times 2\frac{5}{8}''$.

112. (8206).—Head of a [illegible]. From Muttra. [illegible]

113. (8210).—Br[illegible] Ht. [illegible]

114-414. (8212-[illegible] (engraved gems).

APPENDIX I—*contd.*

List of coins acquired for the Indian Museum, Archæological Section, during the year 1929-30.

I.—NON-MUHAMMADAN.

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Billon.	Total.	Mode of acquisition.
	Yaudheya	..	..	1	..	1	Presented by the U. P. Government.
	Later Kushān	..	..	1	..	1	Do.
	South Indian (early).	1	..	..	..	1	Presented by H. E. H. the Nizam's Government.
	Early Chalukya	1	..	..	..	1	Do.
	Padma Tanka	2	..	..	..	2	Do.
Sallakshanapāla Deva	Tomara	..	..	..	1	1	Presented by the U. P. Government.
Anaṅgapāla Deva	Do.	..	..	..	1	1	Do.
	Do.	..	..	..	2	2	Do.
Bhojadeva I	Kanauj	..	1	..	..	1	Do.
	Indo-Sassanian (Magadha type).	..	1	..	..	1	Do.
Anantavarma Choḍa-ganga.	Gāṅga (Kaliṅga)	15	..	..	..	15	Presented by Bihar and Orissa Coin Committee.
	Kadamba	1	..	..	..	1	Presented by H. E. H. the Nizam's Government.
Harihara, II	Vijayanagara	1	..	..	..	1	Do.
Deva Rāya	Do.	3	..	..	..	3	Do.
Kṛishṇa Rāya	Do.	2	..	..	..	2	Do.
Achyuta Rāya	Do.	2	..	..	..	2	Do.
Abhaya Mahārāja 1126 (1764 A. D.).	Arakan	..	1	..	..	1	Presented by the Government of Burma through the Superintendent, Archæological Survey, Burma.
1146 (1731 A. D.).	Do.	[illegible]	1	[illegible]	..	1	Do.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6	Presented by Bihar and Orissa Coin Committee.
[illegible]	[illegible]	34	4	2	4	44	

APPENDIX I—*contd.*

List of coins acquired for the Indian Museum, Archæological Section, during the year 1929-30— contd.

II.—Muhammadan.

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Billon.	Total.	Mode of acquisition.
Sulṭān Maḥmūd	Ghaznavid	..	1	..	..	1	Presented by Mr. James Laing through Pandit B. B. Bidyabinod.
'Alāud-dīn Mas'ūd	Sulṭān of Delhi	..	1	..	..	1	Presented by the U. P. Government.
'Alāud-dīn Muḥammad	Do.	..	11	..	..	11	Presented by Director of Industries, C. P., Nagpur.
Do.	Do.	..	1	..	..	1	Presented by the U. P. Government.
Fīroz II with Fath Khān.	Do.	..	..	1	..	1	Do.
Bahlul Shāh	Do.	..	..	3	..	3	Do.
Sher Shāh	Do.	..	22	..	..	22	Presented by Bengal Government.
Islām Shāh	Do.	..	15	..	..	15	Do.
'Alāud-dīn Husain Shāh.	Sulṭān of Bengal	..	12	..	..	12	Do.
Nasīruddin Nasrat Shāh.	Do.	..	11	..	..	11	Do.
'Alāuddīn Fīroz Shāh	Do.	..	2	..	..	2	Do.
Ghiāthuddīn Maḥmūd	Do.	..	3	..	..	3	Do.
Husain Shāh	Jaunpur	..	..	1	..	1	Presented by the U. P. Government.
Maḥmūd Shāh	Malwa	..	..	2	..	2	Do.
Akbar	Mughal	..	..	6	..	6	Presented by the Superintendent, Archæological Survey, Frontier Circle.
Jahāngīr	Do.	1	..	..	..	1	Purchased.
Jahāngīr	Do.	..	1	..	..	1	Presented by the U. P. Government.

APPENDIX I—*contd.*

*List of coins acquired for the Indian Museum, Archæological Section, during the year 1929-30—*concld.

II.—Muhammadan—*contd.*

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Billon.	Total.	Mode of acquisition.
Shāh Jahān . .	Mughal . .	..	2	..	..	2	Presented by the U. P. Government.
Do. . .	Do. . .	..	1	..	..	1	Presented by Director of Industries, C. P., Nagpur.
Aurangzeb . .	Do. . .	..	1	..	..	1	Presented by Punjab Government.
Do. . .	Do. . .	..	3	..	..	3	Presented by Royal Asiatic Society, Bombay Branch.
Do. . .	Do. . .	..	5	..	..	5	Presented by Director of Industries, C. P., Nagpur.
Shāh 'Ālam I . .	Do. . .	..	3	..	..	3	Presented by Punjab Government.
Do. . .	Do. . .	..	..	1	..	1	Presented by Director of Industries, C. P., Nagpur.
Farrukh Siyar . .	Do. . .	..	3	..	..	3	Do.
Do. . .	Do. . .	..	1	..	..	1	Presented by Punjab Government.
Shāh Jahān, II . .	Do. . .	..	1	..	..	1	Do.
Muḥammad Shāh .	Do. . .	..	1	1	..	2	Do.
Do. .	Do. . .	..	5	..	..	5	Presented by Director of Industries, C. P., Nagpur.
Shāh 'Ālam, II . .	Do. . .	..	1	..	..	1	Do.
Maḥmūd Shāh . .	Durrānī . .	..	1	..	..	1	Presented by Punjab Government.
Amīr Habībulla *alias* Bachha Sakko.	Afghan		1	..	..	1	Presented by Mr. James Laing through Pandit B. B. Bidyabinod.
TOTAL		1	109	15	..	125	
GRAND TOTAL		35	113	17	4	169	

APPENDIX I—*contd.*

List of coins received in the Delhi Fort Museum during the year 1929-30.

PRESENTED.

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Total.

THE GOVERNMENT OF THE UNITED PROVINCES, ALLAHABAD.

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Total.
Akbar	Mughal	..	5	..	5
Shāhjahān	Do.	..	3	..	3
Shāh 'Ālam, II	Do.	..	1	1	2
Islām Shāh	Sūr	..	1	..	1
Jalāluddīn Muhammad Shāh Ghāzī	King of Bengal	..	1	..	1
	TOTAL	..	11	1	12

THE DIRECTOR OF INDUSTRIES, CENTRAL PROVINCES, NAGPUR.

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Total.
'Alāuddīn Muhammad, II	Khaljī	..	2	..	2
Shāhjahān	Mughal	..	1	..	1
Aurangzeb	Do.	..	32	..	32
Shāh 'Ālam Bahādur I	Do.	..	..	1	1
Farrukhsiyar	Do	..	6	..	6
Muhammad Shāh	Do.	..	2	2	4
Shāh 'Ālam II	Do.	..	1	..	1
	TOTAL	..	44	3	47

THE GOVERNMENT OF THE PUNJAB, LAHORE.

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Total.
Akbar	Mughal	..	..	1	1
Aurangzeb	Do.	..	9	..	9
Shāh 'Ālam Bahādur, I	Do.	..	4	..	4
Farrukhsiyar	Do.	..	3	..	3
Muhammad Ibrāhim	Do.	..	1	..	1
Muhammad Shāh	Do.	..	3	..	3
Mahmūd Shāh Durrānī	Durrānī	..	1	..	1
	TOTAL	[illegible]	21	1	22

APPENDIX I—*contd.*

List of coins received in the Delhi Fort Museum during the year 1929-30—contd.

PRESENTED—*contd.*

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Total.
	THE DEPUTY COMMISSIONER, DELHI.				
Ghāziu-d-Dīn Haidar	King of Oudh	..	1	..	1
	TOTAL	..	1	..	1
	THE GOVERNMENT OF BENGAL, CALCUTTA.				
William IV	British	..	1	..	1
Queen Victoria	Do.	..	1	..	1
	TOTAL	..	2	..	2
	THE BOMBAY BRANCH ROYAL ASIATIC SOCIETY, BOMBAY.				
Aurangzeb	Mughal	..	3	..	3
Farrukhsiyar	Do.	..	1	..	1
Muhammad Shāh	Do.	..	9	..	9
Akbar Shāh, II	Do.	..	3	..	3
	TOTAL	..	16	..	16
	THE DIRECTOR GENERAL OF ARCHÆOLOGY IN INDIA.				
Akbar	Mughal	..	..	8	8
Jahāngīr	Do.	..	..	3	3
Shāhjahān	Do.	..	..	2	2
	TOTAL	..	..	13	13
	ON LOAN FROM THE DIRECTOR GENERAL OF ARCHÆOLOGY IN INDIA.				
Mahmūd	Ghaznawid	..	..	3	3
Ghiyāthu-d-Dīn Balban	Slave	1	..	..	1
Akbar	Mughal	1	1	..	2
Shāhjahān	Do.	1	..	1	2
Shāh 'Ālam Bahādur, I	Do.	..	2	..	2
Muhammad Shāh	Do.	..	..	1	1
Shāh 'Ālam, II	Do.	..	[illegible]	1	[illegible]
Akbar Shāh, II	Do.	..	[illegible]	..	[illegible]
Bahādur Shāh, II	Do.	..	[illegible]	1	[illegible]
Ni[illegible]-l-Mulk	Hyderabad	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	3	[illegible]	[illegible]	[illegible]

APPENDIX I—*contd.*

List of antiquities added to the collection of Central Asian Antiquities Museum, New Delhi, during the year 1929-30.

Antiquity register No.	Description of antiquities.	Measurements.
	Presented by Mr. C. T. Skrine, I.C.S., Political Agent, Sibi, Baluchistan, through Sir John Marshall :—	
19	Small vase-shaped pot of pre-historic ware from Girdi-Chah area in Sistan. In reddish clay with traces of painted device.	8½″ × 4¼″.
20	Small vase-shaped pot of pre-historic ware from Girdi-Chah area in Sistan. Grey clay, plain undecorated.	8½″ × 4¾″.
21	Small vase-shaped pot of pre-historic ware from Girdi-Chah area in Sistan. Reddish clay, traces of fine slip and of a bird painted red.	11½″ × 4″.
22	Small vase-shaped pot of pre-historic ware from Girdi-Chah area in Sistan. Grey clay, plain and undecorated.	9½″ × 5″.
	Presented by Director General of Archæology in India :—	
23	Tiara in five panels, each panel centred by Buddha figure on lotus throne, surrounded with jewels.	15″ × 5½″ and each panel 5½″ × 3″.
24	Belt buckle, square centre, top and side flaps jewelled in turquoise, rubies, saphires, corals, pearls, lapislazuli, etc.	7½″ × 4″.
25	Crescentic breast (Hāra) piece. Kīrttimukha in centre. Turquoise and ruby border and jewelled floral designs.	1′1″ × 5″.
26	Belt clasp with figure of peacock and floral designs, jewelled in saphires, rubies, turquoise and pearls.	3½″ × 3″.
27	Medallion with seated Buddha in coral, surrounded by saphires and rubies.	2″ × 1¾″.
28	Square amulet case. On front, Buddha in lapislazuli, surrounded by borders of rubies.	3″ × 3″.
29	Square amulet case. Copper gilt showing on front the repoussé figure of 16-armed Avalokiteśvara.	3½″ × 3½″.
30	Brass statuette of Buddha in *bhūmisparśa-mudrā*	6½″ × 5½″.
31	Celestial flying figure on copper gilt repoussé probably of a *ḍākinī* sheltered by a hood of lion heads.	1′2″ × 9½″.
32	Lion head. Copper gilt repoussé	4″ × 4″.
33	Small terracotta amulet of six-armed Avalokiteśvara . . .	2½″ × 2″.
34	Rosary of banded agate and coral beads	116 beads.
35	Book cover in two pieces of good gilt, with Buddhist paintings on inner faces.	8″ × 3½″ each.
36	Ancient Singhalese knife	1′2½″ × 2″.
37	Ditto	11″ × 1″.
38	Ditto	11½″ × 1″.
39	Ditto	9½″ × ¾″.
40	An Indian painting showing a scene of a royal hunt by Abdur-Rahim, Ambarin-raqam, 1014 A. H.	1′4″ × 8½″.

APPENDIX I—*concld.*

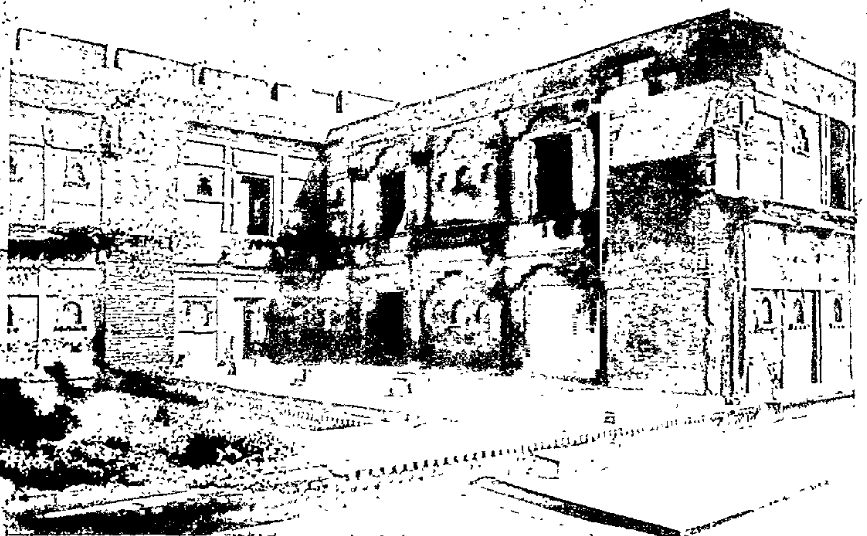
List of antiquities added to the collection of Central Asian Antiquities Museum, New Delhi, during the year 1929-30—concld.

Antiquity register No.	Description of antiquities.	Measurements.
41	An Indian painting showing elephant with trappings, uprooting a tree with its trunk. A *mahaut* seated on the neck of the elephant and another attendant standing on ground in front of the elephant watching the uprooting process. (Artist unknown).	9½″ × 7″.
42	An Indian painting showing a European restraining a leaping tiger with an iron chain. (Artist unknown).	10¼″ × 7″.
43	An Indian painting showing winged fairy figure holding Sun in right hand and long snake in left, riding a tiger. Form of tiger is cleverly evolved out of a crowd of dwarf figures of male and female children and monster faces. (Artist Jamal-ullah).	11½″ × 7″.
44	An Indian painting showing Aurangzeb with bow in hand riding a galloping horse.	10½″ × 7¼″.
45	An Indian painting showing an ascetic seated on lion skin before his hut under a tree. A young disciple holding a rosary seated a little to his right and a young richly dressed lady standing on a lion skin, her shoulders tied to two ropes hanging from the tree, the lady with bound arms faces a dark ascetic with folded hands. Landscape beyond, shows a river and group of temples amid hills.	10″ × 7¾″.
46	An Indian painting showing Murad Bakhsh crouching on bed in the compound of his palace and looking towards three female figures standing before an entrance. A female attendant holding a gold vessel stands on the opposite side behind the bed.	11″ × 7¾″.
47	One Tibetan Banner	2′6″ × 1′8½″.
48	Ditto	2′5″ × 1′7½″.
49	Ditto	1′3″ × 11″.
50—52	Three glazed decorated tiles (part of the same subject) from Kashmir. .	8½″ × 4½″, 8½″ × 8″, 8¼″ × 7¼″.
53—56	Chinese Manuscripts	5′7″ × 10″, 3′4″ × 11¼″, 22′4½″ × 10¼″, 1′9″ × 10″.
57	One large Tibetan curtain with figures appliqué in silk	12′ × 8′.
	Presented by Sir John Marshall:—	
58	One large Tibetan curtain with figures appliqué in silk . . .	9′7″ × 62″.
59	Central Asian Painted banner in silk showing standing Bodhisattva (painted portion 2′8″ × 10″, 4 streamers at bottom each 3′4″ × 2″).	6′ × 10″.
60	Small Tibetan Banner	1′8″ × 1′1½″.

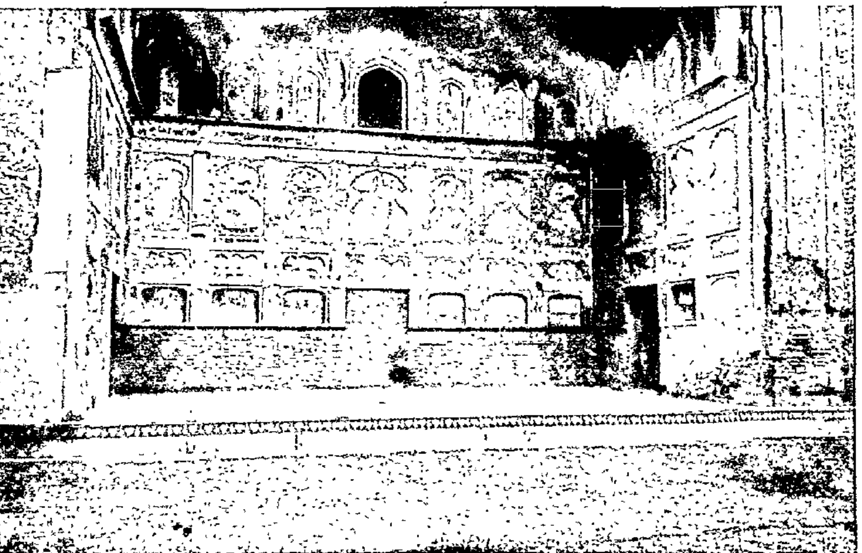
APPENDIX II.

Additions to Departmental Libraries.

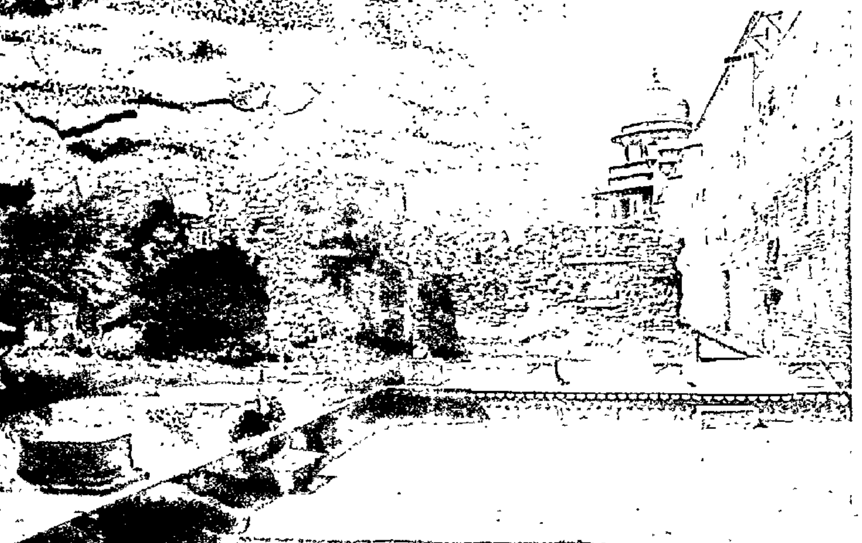
Name of office.	Books purchased.	Books presented.	Total.	REMARKS.
Director General	122	145	267	Excludes Journals.
Northern Circle—				
Muhammadan and British Monuments.	6	24	30	
Hindu and Buddhist Monuments .	40	22	62	
Frontier Circle	10	47	57	
Western Circle	35	19	54	Excludes 21 periodicals, reports, etc., which were received free of cost.
Central Circle	42	25	67	
Eastern Circle	65	37	102	
Southern Circle	53	31	84	
Burma Circle	84	144	228	Includes 70 copies of Siamese publications presented by the Government of Siam.
Government Epigraphist . .	81	67	148	
Assistant Archæological Superintendent for Epigraphy, Southern Circle.	36	36	72	Includes 7 Journals received in exchange.
Archæological Chemist . . .	14	9	23	
Archæological Section, Indian Museum.	117	48	165	
Central Asian Antiquities Museum, New Delhi.	17	12	29	



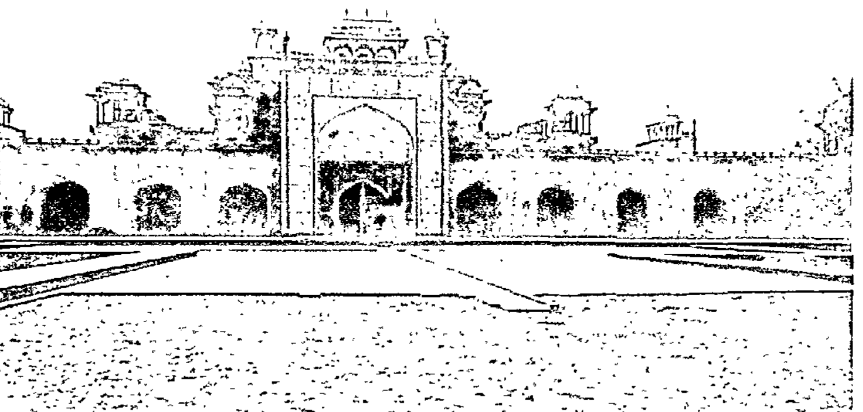
(a) AGRA FORT. AKBARI MAHAL. GENERAL VIEW OF THE FLOOR OF NORTH-EAST ROOM, AFTER CONSERVATION.



(c) AGRA. CHINI KA RAUZA. GENERAL VIEW OF NORTH ARCHWAY, AFTER CONSERVATION.



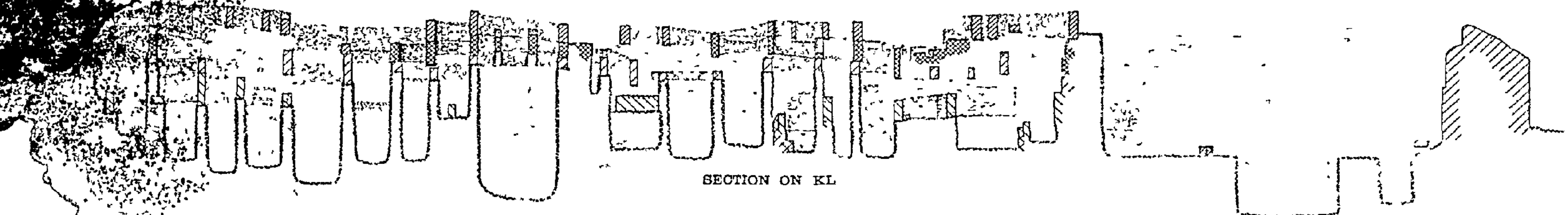
(b) AGRA FORT. AKBARI MAHAL. GENERAL VIEW OF THE KITCHEN ON THE NORTH, AFTER CONSERVATION.



(d) SIKANDRA. AKBAR'S TOMB. GENERAL VIEW OF NORTH CAUSEWAY, AFTER RESTORATION.

SIRKAP

PLAN SHOWING IV V & VI STRATA



Rcd. No 3335 E. 34-400.
HELIO S I O CALCUTTA.

HARAPPA. SITE G.

PLAN
OF
SKELETAL REMAINS
IN
TRENCH II

EXCAVATIONS 1929–30

SCALE
Inches 12 9 6 3 0 1 2 3 4 5 Feet

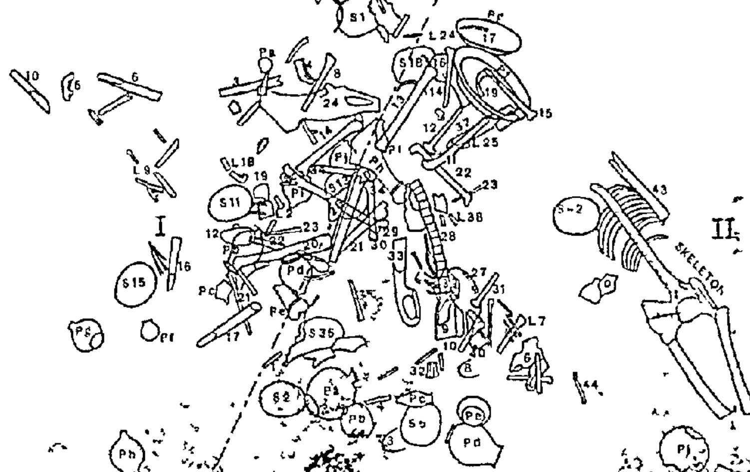


III

IV

REFERENCES

Skull	S	
Pottery	P	
Lot of bones	L	
Upper stratum		═
Lower ,,		—



Officiating Superintendent
ARCHÆOLOGICAL SURVEY
Hindu and Buddhist Monuments
Northern Circle

Reg No 3335 E 34 400